

# ***Exhibit P***



RECU 24 SEP. 2018

ETSI Rules of Procedure, 29 November 2017

**Annex 6 - Appendix A: IPR Licensing Declaration forms**

**IPR HOLDER / ORGANISATION ("Declarant")**

Legal Name: Sun Patent Trust

**CONTACT DETAILS FOR LICENSING INFORMATION:**

Name and Title: Joseph Casino, Managing Trustee

Department: c/o Wiggin and Dana LLP

Address: 437 Madison Avenue, 35th Floor  
New York, NY 10022

Telephone: 212-551-2842

Fax: 212-551-2888

Email: jcasino@wiggin.com

URL: N/A

**GENERAL IPR LICENSING DECLARATION**

In accordance with Clause 6.1 of the ETSI IPR Policy the Declarant and/or its AFFILIATES hereby informs ETSI that (**check one box only**):

- ☐ with reference to ETSI STANDARD(S) or TECHNICAL SPECIFICATION(S) No.: \_\_\_\_\_, or
- ☒ with reference to ETSI Project(s): LTE Advanced, or
- ☐ with reference to all ETSI STANDARDS AND TECHNICAL SPECIFICATIONS

and with reference to (**check one box only**):

- ☐ IPR(s) contained within technical contributions made by the Declarant and/or its AFFILIATES, or
- ☒ any IPRs

the Declarant hereby irrevocably declares that (1) it and its AFFILIATES are prepared to grant irrevocable licenses under its/their IPR(s) on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy, in respect of the STANDARD(S), TECHNICAL SPECIFICATION(S), or the ETSI Project(s), as identified above, to the extent that the IPR(s) are or become, and remain ESSENTIAL to practice that/those STANDARD(S) or TECHNICAL SPECIFICATION(S) or, as applicable, any STANDARD or TECHNICAL SPECIFICATION resulting from proposals or Work Items within the current scope of the above identified ETSI Project(s), for the field of use of practice of such STANDARD or TECHNICAL SPECIFICATION; and (2) it will comply with Clause 6.1bis of the ETSI IPR Policy with respect to such ESSENTIAL IPR(s).

- ☐ This irrevocable undertaking is made subject to the condition that those who seek licences agree to reciprocate (**check box if applicable**).

The construction, validity and performance of this General IPR licensing declaration shall be governed by the laws of France.

Terms in ALL CAPS on this form have the meaning provided in Clause 15 of the ETSI IPR Policy.

**SIGNATURE**

By signing this General IPR Licensing Declaration form, you represent that you have the authority to bind the Declarant and/or its AFFILIATES to the representations and commitments provided in this form.

Name of authorized person: Joseph Casino

Title of authorized person: Managing Trustee

Place, Date: New York, NY on September 21, 2018

Signature: \_\_\_\_\_

*Please return this form duly signed to: ETSI Director-General*

*ETSI - 650, route des Lucioles - F-06921 Sophia Antipolis Cedex - France / Fax. +33 (0) 4 93 65 47 16*



REC 24 SEP. 2018  
ETSI Rules of Procedure, 29 November 2017

## IPR INFORMATION STATEMENT AND LICENSING DECLARATION

### IPR HOLDER / ORGANISATION ("Declarant")

Legal Name: Sun Patent Trust

### CONTACT DETAILS FOR LICENSING INFORMATION:

Name and Title: Joseph Casino, Managing Trustee

Department: c/o Wiggin and Dana LLP

Address: 437 Madison Avenue, NY, NY 10022

Telephone: 1-212-551-2842

Fax: 1-212-551-2888

Email: jcasino@wiggin.com

URL: N/A

### IPR INFORMATION STATEMENT

In accordance with Clause 4.1 of the ETSI IPR Policy the Declarant and/or its AFFILIATES hereby informs ETSI that it is the Declarant's and/or its AFFILIATES' present belief that the IPR(s) disclosed in the attached *IPR Information Statement Annex* may be or may become ESSENTIAL in relation to at least the ETSI Work Item(s), STANDARD(S) and/or TECHNICAL SPECIFICATION(S) identified in the attached *IPR Information Statement Annex*.

The Declarant and/or its AFFILIATES (**check one box only**):

- ☒ are the proprietor of the IPR(s) disclosed in the attached *IPR Information Statement Annex*.  
☐ are not the proprietor of the IPR(s) disclosed in the attached *IPR Information Statement Annex*.

### IPR LICENSING DECLARATION

In accordance with Clause 6.1 of the ETSI IPR Policy the Declarant and/or its AFFILIATES hereby irrevocably declares the following (**check one box only, and subordinate box, where applicable**):

- ☒ To the extent that the IPR(s) disclosed in the attached *IPR Information Statement Annex* are or become, and remain ESSENTIAL in respect of the ETSI Work Item, STANDARD and/or TECHNICAL SPECIFICATION identified in the attached *IPR Information Statement Annex*, the Declarant and/or its AFFILIATES are (1) prepared to grant irrevocable licences under this/these IPR(s) on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy; and (2) will comply with Clause 6.1bis of the ETSI IPR Policy.  
☐ This irrevocable undertaking is made subject to the condition that those who seek licences agree to reciprocate (**check box if applicable**).  
☐ The Declarant and/or its AFFILIATES are not prepared to make the above IPR Licensing Declaration (reasons may be explained in writing in the attached *IPR Licensing Declaration Annex*).

The construction, validity and performance of this IPR information statement and licensing declaration shall be governed by the laws of France.

Terms in ALL CAPS on this form have the meaning provided in Clause 15 of the ETSI IPR Policy.

### SIGNATURE

By signing this IPR Information Statement and Licensing Declaration form, you represent that you have the authority to bind the Declarant and/or its AFFILIATES to the representations and commitments provided in this form.

Name of authorized person: Joseph Casino

Title of authorized person: Managing Trustee

Place, Date: New York, NY on September 21, 2018

Signature:

Please return this form duly signed to: ETSI Director-General

ETSI - 650, route des Lucioles - F-06921 Sophia Antipolis Cedex - France / Fax. +33 (0) 4 93 65 47 16





ETSI Rules of Procedure, 29 November 2017

## IPR Information Statement Annex

				Proprietor	Application No.	Publication No.	Patent/Application Title	Country of registration	FURTHER INFORMATION		
Project or Standard name	Work Item or Standard No.	Illustrative Specific part of the standard (e.g. Section)	Version (V.X.X.X)						Other members of this PATENT FAMILY, if any *		
									Application No.	Publication No.	Country of registration
e.g. UMTS	ETSI TS 125 215	6.1.1.2	V.3.5.0	Abcd		EP 1131972	Scheduling of slotted-mode related measurements	EPC CONTRACTING STATES		AU 12740/00	Australia
										CN 99813100.8	China P.R.
										FI 108270	Finland
										JP 11-318161	Japan
										US 6532226	USA
3GPP Release 10	TS24.3 03	5.6.2.2	V.10.8.0	Sun Patent Trust	PCT/JP2006/306423	WO2006/106712	Communication Control Method and Communication node and Mobile Node	PCT	06730371.9		BE
									PI0609495-3		BR
									06730371.9		CH
									200680009904.4	101151854	CN
									06730371.9		CZ
									06730371.9		DE
									06730371.9		DK
									18154516.1	3334196	EP
									06730371.9		ES
									06730371.9		FI
									06730371.9		FR
									06730371.9		GB
									06730371.9		GR
									06730371.9		HU
									06730371.9		IE
									06730371.9		IT
									2007-512777	2006-906712	JP
									2011-072359	2011-147176	JP
									2012-074597	2012-165421	JP
									06730371.9		NL
									06730371.9		PL
									06730371.9		PT





## ETSI Rules of Procedure, 29 November 2017

									06730371.9		RO
									06730371.9		SE
									06730371.9		TR
									15/077453	20160205068	US
									13/875152	2013-0242917	US
									14/860485		US
									15/273500	20170012939	US
									15/398593	2070118623	US
3GPP Release 10	TS36.300	5.5	V.10.1 2.0	Sun Patent Trust	PCT/JP2007/05 0830	WO2007/083 762	Mobile station apparatus, reception method and integrated circuit	PCT	PI0707878-1		BR
									PI0722415-0		BR
									200780002768.0	101371478	CN
									201110152024.5	102209060	CN
									201110389653.X	102438227	CN
									07707118.1	1976169	EP
									11167327.3	2391082	EP
									1470/MUMNP/2008		IN
									1062/MUMNP/2011		IN
									1624/MUMNP/2014		IN
									2007-554986	2007-883762	JP
									2011-088795	2011-176862	JP
									10-2008-7017670	2008-0092382	KR
									10-2011-7008981	2011-0058892	KR
									10-2011-7030269	2012-0005553	KR
									2008/009043		MX
									2010/012534		MX
									2008129720		RU
									2011109040	2011109040	RU
									12/160483	2011-0228757	US
									13/114696	2011-0223951	US
									13/360472	2012-0120911	US



## ETSI Rules of Procedure, 29 November 2017

3GPP Release 10	TS36.2 16	5.6	V.10.3. 1	Sun Patent Trust	PCT/JP2007/06 6018	WO2008/020 623	COMMUNICATION APPARATUS AND COMMUNICATION METHOD	PCT	14/195693	2014-0177624	US
									2008-529887	2008-820623	JP
									12/377579	2010-0226318	US
									14/529487	2015-0049728	US
									14/705677	2015-0237614	US
									14/981252		US
									15/289780		US
3GPP Release 10	TS36.2 11	6.10.5	V.10.7. 0	Sun Patent Trust	PCT/JP2008/00 2221	WO2009/025 081	MOBILE STATION AND RECEPTION METHOD	PCT	15/899045		US
									200880103318.5	101779388	CN
									201310085069.4	103138819	CN
									08827883.3	2180603	DE
									13173844.5	2645658	DE
									15155332.8		DE
									16186870.8		DE
									13173844.5	2645658	FR
									15155332.8		FR
									16186870.8		FR
									13173844.5	2645658	GB
									15155332.8		GB
									16186870.8		GB
									2009-528952	2009-825081	JP
									2013-032029	2013-141287	JP
									2014-083527	2014-161081	JP
									12/673560	2011-0216845	US
									13/972586	2013-0336265	US
3GPP Release 10	TS36.2 11	5.5.2.1. 1	V.10.7. 0	Sun Patent Trust	PCT/JP2008/00 4006	WO2009/087 741	APPARATUS AND METHOD FOR GENERATING AND TRANSMITTING REFERENCE SIGNAL IN RADIO COMMUNICATION	PCT	14/830527		US
									15/218877	20160337013	US
									15/478704	2017/0207892	US
									15/953984		US
									PI0821961-3		BR
									08870529.8	2228934	EP
									12184671.1	2560308	EP
									13178987.7	2661003	EP
									2009-548815	2009-887741	JP
3GPP Release 10	TS36.2 11	5.5.2.1. 1	V.10.7. 0	Sun Patent Trust	PCT/JP2008/00 4006	WO2009/087 741	APPARATUS AND METHOD FOR GENERATING AND TRANSMITTING REFERENCE SIGNAL IN RADIO COMMUNICATION	PCT	2013-010915	2013-138446	JP
									2013-257965	2014-090463	JP
									2014-209809	2015-019429	JP
									12/811189	2010-0284394	US



## ETSI Rules of Procedure, 29 November 2017

									13/752126	2013-0176962	US
									14/246497	2014-0219208	US
									14/520170	2015-0036646	US
									14/699890	2015-0237638	US
									14/858333		US
									15/057969	20160183246	US
									15/376470	2017/0093543	US
									15/672047	20170338926	US
3GPP Release 10	TS36.2 11	6.10.5	V.10.7. 0	Sun Patent Trust	PCT/JP2009/00 2824	WO2009/157 168	INTEGRATED CIRCUIT	PCT	16169094.6		BE
									16169094.6		CH
									201710037526. 0	106911368	CN
									16169094.6		CZ
									09769878.1	2293473	DE
									16169094.6		DE
									16169094.6		DK
									18152473.7	3327982	EP
									16169094.6		ES
									16169094.6		FI
									09769878.1	2293473	FR
									16169094.6		FR
									09769878.1	2293473	GB
									16169094.6		GB
									16169094.6		GR
									16169094.6		HU
									16169094.6		IE
									16169094.6		IT
									2010-517745	2009-957168	JP
									2013-220199	2014-053936	JP
									2014-232647	2015-073291	JP
									16169094.6		NL
									16169094.6		NO
									16169094.6		PL
									16169094.6		PT
									16169094.6		RO
									16169094.6		SE
									16169094.6		TR
									12/999044	2011-0103343	US
									14/931121		US
									15/717323		US





## ETSI Rules of Procedure, 29 November 2017

3GPP Release 10	TS36.2 13	9.1.2	V.10.1 3.0	Sun Patent Trust	PCT/JP2009/00 3802	WO2010/016 274	Wireless communication apparatus and channel allocation method	PCT	PI0917452-4		BR
									200980130504.2	102119566	CN
									201410059902.2	103796321	CN
									09804761.6		DE
									09804761.6		DK
									17182510.2	3255947	EP
									09804761.6		ES
									09804761.6		FI
									09804761.6		FR
									09804761.6		GB
									18104924.3		HK
									W00201100505	051.2023	ID
									8/MUMNP/2011		IN
									201828024481		IN
									09804761.6		IT
									2010-523775	2010-816274	JP
									2013-234126	2014-053957	JP
									2014-030491	2014-090520	JP
									10-2011-7002808	2011-0053955	KR
									10-2012-7017933	2012-0096566	KR
									2011/001255		MX
									2012/007000		MX
									2011104354	2011104354	RU
									09804761.6		TR
									15/132151	20160234816	US
									13/057453	2011-0134874	US
									13/866877	2013-0235826	US
									14/683016	2015-0215919	US
									14/930285		US
									15/714873	20180014289	US
									16/006648		US
									1-2011-00038		VN
3GPP Release 12	TS36.2 12	5.3.3.1	V.10.9. 0	Sun Patent	PCT/JP2009/00 3841	WO2010/018 684	Integrated circuit	PCT	200980130502.3	102119573	CN



## ETSI Rules of Procedure, 29 November 2017

se 10				Trust					201410267643.2	103997792	CN
									09806580.8	2315487	EP
									2010-524669	2010-818684	JP
									2013-154383	2013-219836	JP
									2014-106990	2014-147136	JP
									13/058151	2011-0141998	US
									14/035193		US
									15/271899		US
									16/030101		US
3GPP Release 10	TS36.211	5.3.3	V.10.7.0	Sun Patent Trust	PCT/JP2009/004741	WO2010/032482	Integrated circuit for inverse discrete fourier transforming a frequency domain signal to a time domain symbol sequence	PCT	PI0914194-4		BR
									200980136109.5	102160310	CN
									201410197194.9	103929292	CN
									09814327.4	2330762	DE
									13175490.5	2651057	EP
									13175493.9	2651058	EP
									W00201100960	051.3479	ID
									406/MUMNP/2011		IN
									201828018762		IN
									2010-529649	2010-832482	JP
									2013-059790	2013-168968	JP
									2014-186207	2015-006004	JP
									10-2011-7005981	2011-0073449	KR
									10-2012-7012665	2012-0073338	KR
									2011/003075		MX
									20111110719	2011110719	RU
									13/119813	2013-0077466	US
									14/072668	2014-0064241	US
									14/694960	2015-0229425	US
									14/979109	20160135190	US
									15/337985	20170048867	US
									15/678948		US
									16/012519		US
									1-2011-00508		VN



## ETSI Rules of Procedure, 29 November 2017

3GPP Release 10	TS36.2 13	8.1.2	V.10.1 3.0	Sun Patent Trust	PCT/JP2009/00 5381	WO2010/047 061	Terminal and method for transmitting transmission signal	PCT	PI0919727-3		BR
									2738607		CA
									200980141300.9	102187607	CN
									201510140701.X	104702375	CN
									09821761.5	2348659	DE
									15176024.6	2983336	EP
									600/MUMNP/2011		IN
									201828013072		IN
									2010-534674	2010-847061	JP
									2013-210150	2014-014183	JP
									10-2011-7008872	2011-0081985	KR
									PI2011001429		MY
									2011115422	2011115422	RU
									15/149601		US
									13/124811	2012-0026948	US
									14/457783		US
									16/053256		US
3GPP Release 10	TS36.2 13	10.1.2. 1	V.10.1 3.0	Sun Patent Trust	PCT/JP2009/00 5529	WO2010/050 153	Radio communication device and radio communication method	PCT	09823267.1		DE
									17157401.5	3197077	EP
									09823267.1		FR
									09823267.1		GB
									2010-535644	2010-850153	JP
									2014-041709	2014-140207	JP
									2015-025378	2015-144440	JP
									2011117566	2011117566	RU
									13/122572	2011-0206030	US
									14/195349	2014-0185590	US
3GPP	TS23.0	B.1	V.10.1	Sun	PCT/JP2009/00	WO2010/050	BASE STATION	PCT	2009308623		AU





## ETSI Rules of Procedure, 29 November 2017

Release 10	60		4.0	Patent Trust	5752	222	DEVICE, GATEWAY DEVICE, CALL CONNECTING METHOD, AND WIRELESS COMMUNICATION SYSTEM		2013201325		AU
									PI0919604-8		BR
									200980140455.0	102187720	CN
									201410269770.6	104105201	CN
									09823335.6		DE
									16201979.8		DE
									16201979.8		EP
									18187621.0		EP
									09823335.6		FR
									16201979.8		FR
									09823335.6		GB
									16201979.8		GB
									638/MUMNP/2011		IN
									2010-535681	2010-850222	JP
									2012-025899	2012-120239	JP
									10-2011-7009878	2011-0066958	KR
									PI2011001592		MY
									PI2013002100		MY
									2011114800		RU
									2012103496		RU
									2013115713		RU
									201102888-3	201102888-3	SG
									201202101-0	180167	SG
									201308764-8	196244	SG
									13/123709	2011-0195737	US
									13/851486	2013-0208660	US
									14/875102		US
									15/240929	20160360534	US
									1-2011-00930		VN
									1-2017-03990		VN
3GPP Release 10	TS36.213	8.1.2	V.10.13.0	Sun Patent Trust	PCT/JP2009/006086	WO2010/055676	Base station apparatus and resource allocation method	PCT	2009315179		AU
									PI0921090-3		BR
									200980145383.9	102217220	CN
									201410294170.5	104135338	CN



## ETSI Rules of Procedure, 29 November 2017

									09825929.4	2348661	EP
									796/MUMNP/2011		IN
									2010-537707	2010-855676	JP
									2013-186242	2014-030219	JP
									2013-246240	2014-075821	JP
									2015-054846	2015-156672	JP
									10-2016-7007032		KR
									10-2011-7010744	2011-0098998	KR
									10-2012-7013283	2012-0081216	KR
									20111119495	20111119495	RU
									201103528-4		SG
									201207047-0	184775	SG
									13/128480	2011-0222500	US
									14/144249	2014-0112313	US
									14/581649	2015-0124751	US
									14/861860		US
									15/245747	20160366690	US
									15/588247	2017/0245279	US
									15/958798		US
									1-2011-01190		VN
									1-2015-02566		VN
3GPP Release 10	TS36.213	8.6.3	V.10.1 3.0	Sun Patent Trust	PCT/JP2009/006508	WO2010/064407	Base station and method for receiving control information	PCT	2009323568		AU
									PI0922721-0	Journal No. 2348	BR
									200980148274.2	102239657	CN
									201410089940.2	103888220	CN
									09830177.3		DE
									17201614.9	3327964	EP
									09830177.3		FR
									09830177.3		GB
									1087/MUMNP/2011		IN
									201828016608		IN
									2010-541222	2010-864407	JP



## ETSI Rules of Procedure, 29 November 2017

									2013-170293	2014-017830	JP
									2014-114259	2014-209745	JP
									2015-113864	2015-213326	JP
									10-2011-7012562	2011-0099007	KR
									10-2012-7005916	2012-0040267	KR
									10-2016-7016207	10-2016-0075848	KR
									2011122279	2011122279	RU
									201104013-6		SG
									201206625-4	184729	SG
									13/130937	2011-0228759	US
									14/091164	2014-0098764	US
									14/828247		US
									15/231417	20160352453	US
									1-2011-01296		VN
3GPP Release 11	TS36.2 11	5.5.1.5	V.11.7.0	Sun Patent Trust	PCT/JP2009/00 6729	WO2010/067 598	INTEGRATED CIRCUIT	PCT	201610238177.4	105656513A	CN
									09831705.0	2357733	EP
									2010-542021	2010-867598	JP
									2013-170292	2014-007754	JP
									13/133286	2011-0243191	US
									15/205302		US
									15/787205		US
3GPP Release 10	TS36.2 12	5.3.3.1	V.10.9.0	Sun Patent Trust	PCT/JP2009/00 7254	WO2010/073 702	COMMUNICATION APPARATUS AND CONTROL INFORMATION RECEIVING METHOD	PCT	2010-543912	2010-873702	JP
									2014-186203	2014-233089	JP
									13/131480	2011-0222503	US
									14/551763		US
									15/836240		US
3GPP Release 11	TS36.2 13	9.1.4.1	V.11.1 3.0	Sun Patent Trust	PCT/JP2010/00 0498	WO2010/087 175	BASE STATION APPARATUS, MOBILE STATION APPARATUS, AND TRANSMISSION METHOD	PCT	2010-548425	2010-887175	JP
									15/071703		US
									13/144161	2011-0274073	US
									14/140750	2014-0105168	US
									14/718167		US
									15/349388		US
									15/819149		US
3GPP	TS36.2	6.10.5.	V.10.7.	Sun	PCT/JP2010/00	WO2010/087	REFERENCE SIGNAL	PCT	PI1007299-3		BR





## ETSI Rules of Procedure, 29 November 2017

Release 10	11	2	0	Patent Trust	0499	176	RECEPTION AND CQI COMPUTATION METHOD AND WIRELESS COMMUNICATION APPARATUS		201080005693.3	102301628	CN
									201510977423.3	105375964	CN
									10735648.7	2383918	EP
									W00201102681	051.4388	ID
									1327/MUMNP/2011		IN
											IN
									2010-548426	2010-887176	JP
									2013-190247	2013-258772	JP
									2014-114240	2014-200094	JP
									2014-150607	2014-233079	JP
									2015-221434		JP
									2017-105514		JP
									10-2011-7017741	2011-0118644	KR
									2011/007834		MX
									2011131777	2011131777	RU
									13/144665	2011-0275396	US
									14/602176		US
3GPP Release 10	TS36.212	5.3.3.1	V.10.9.0	Sun Patent Trust	PCT/JP2010/00879	WO2010/092826	Communication Apparatus and Communication Method	PCT	15/264219	20170005771	US
									15/372113	20170093548	US
									15/673090	20170338933	US
									1-2011-01682		VN
									PI1008791-5		BR
									201080007514.X	102318423	CN
									201310724231.2	103701580	CN
									10741106.8		DE
									16202480.6		EP
									10741106.8		FR
									10741106.8		GB
									W00201102837	051.4870	ID
									1645/MUMNP/2011		IN
									2010-550470	2010-892826	JP



## ETSI Rules of Procedure, 29 November 2017

									2014-250786	2015-080254	JP
									10-2011-7018697	2011-0118666	KR
									2011/008282		MX
									2011134055	2011134055	RU
									1101001486	114921	TH
									13/148890	2012-0026953	US
									14/227987	2014-0211715	US
									14/810915		US
									15/258849		US
									15/698103		US
									16/053241		US
									1-2011-01920		VN
3GPP Release 10	TS36.213	8.1	V.10.1 3.0	Sun Patent Trust	PCT/JP2010/001008	WO2010/095430	SCHEDULING APPARATUS SCHEDULING METHOD AND	PCT	10743560.4		AT
									10743560.4		BE
									10743560.4		BG
									PI1008459-2		BR
									2752564		CA
									10743560.4		CH
									201080008096.6	102318424	CN
									201310704034.4	103701578	CN
									10743560.4		CY
									10743560.4		CZ
									10743560.4		DE
									10743560.4		DK
									10743560.4		EE
									18172702.5		EP
									10743560.4		ES
									10743560.4		FI
									10743560.4		FR
									10743560.4		GB
									10743560.4		GR
									10743560.4		HR
									10743560.4		HU
									10743560.4		IE
									1689/MUMNP/2011		IN



## ETSI Rules of Procedure, 29 November 2017

									2075/MUMNP/2012		IN
									10743560.4		IS
									10743560.4		IT
									2011-500513	2010-895430	JP
									2013-207260	2013-258786	JP
									2015-025533	2015-092779	JP
									2017-074629		JP
									2018-060278		JP
									10-2011-7019105	2011-0121685	KR
									10-2012-7022166	2012-0113792	KR
									10743560.4		LT
									10743560.4		LU
									10743560.4		LV
									10743560.4		MC
									10743560.4		MK
									10743560.4		MT
									PI2011003834		MY
									PI2017001042		MY
									10743560.4		NL
									10743560.4		NO
									10743560.4		PL
									10743560.4		PT
									10743560.4		RO
									2011134498	2011134498	RU
									10743560.4		SE
									10743560.4		SI
									10743560.4		SK
									10743560.4		SM
									10743560.4		TR
									13/201767	2011-0299496	US
									14/799316		US
									15/214134	20160330002	US
									15/498036	2017/0230980	US
									15/857465	20180124793	US
									1-2011-01921		VN
									2011/05982		ZA
3GPP	TS36.2	5.3.3.1	V.10.9.	Sun	PCT/JP2010/00	WO2010/103	RADIO	TERMINAL,	PCT	PI1008961-6	BR





## ETSI Rules of Procedure, 29 November 2017

Release 10	12		0	Patent Trust	1749	841	RADIO STATION, SIGNAL METHOD, CHANNEL RECEIVING METHOD	BASE CHANNEL FORMING AND SIGNAL		201080011663.3	102349341	CN
										201310734027.9	103702365	CN
										10750597.6		DE
										18172406.3		EP
										10750597.6		FR
										10750597.6		GB
										W00201103169	2012/00321	ID
										1775/MUMNP/2011		IN
										2011-503725	2010-903841	JP
										2013-232904	2014-030272	JP
										2014-104192	2014-187702	JP
										10-2011-7021165	2011-0135393	KR
										2011/009556		MX
										2012/012342		MX
										2011137431	2011137431	RU
										1101001972	117989	TH
										13/255474	2011-0317655	US
										14/166555		US
										15/267049	20170005763	US
										15/797132	20180054283	US
										1-2011-02341		VN
3GPP Release 10	TS36.211	6.10.5.2	V.10.7.0	Sun Patent Trust	PCT/JP2010/00835	WO2010/106729	RADIO RECEPTION APPARATUS, RADIO TRANSMISSION APPARATUS, AND RADIO COMMUNICATION METHOD		PCT	201080011953.8	102356577	CN
										10753226.9	2410684	EP
										2011-504719	2010-906729	JP
										2014-035631	2014-135747	JP
										2014-035632	2014-143693	JP
										13/254628	2011-0317581	US
										14/552687	2015-0078195	US
										14/698372		US
										14/969943		US
										15/264940		US
										15/812283		US
3GPP	TS36.3	5.5.5	V.10.2	Sun	PCT/JP2010/00	WO2010/106	METHOD AND		PCT	PI1009480-6		BR



## ETSI Rules of Procedure, 29 November 2017

Release 10	31		2.0	Patent Trust	1032	735	APPARATUS FOR MEASUREMENT REPORTING CARRIER AGGREGATION WIRELESS COMMUNICATION SYSTEMS		201080012197.0 10753232.7 W00201103248 2070/MUMNP/2011 2011-504723 2014-065963 10-2011-7024260 2011/009554 2012/012950 2011141791 1101002035 15/138096 13/256613 14/151674 15/426869 1-2011-02420	102356667 2410792 2012/02778A  2010-906735 2014-112978 2011-0129472  2011141791 118165 20160249270 2012-0004010  2017/0150406	CN EP ID IN JP JP KR MX MX RU TH US US US US US VN
3GPP Release 10	TS36.211	5.5.3.2	V.10.7.0	Sun Patent Trust	PCT/JP2010/002616	WO2010/116764	WIRELESS BASE STATION APPARATUS, WIRELESS TERMINAL APPARATUS, FREQUENCY RESOURCE ALLOCATION METHOD, AND METHOD OF FORMING TRANSMISSION SIGNAL	PCT	2011-508260 2014-010484 2015-077687 2016-111998 13/258351 14/673069 14/875444 15/184798 15/457519 15/809719	2010-916764 2014-068410 2015-165677  2012-0008589 2015-0270941  20160301547 2017/0187505 20180083754	JP JP JP JP US US US US US US
3GPP Release 11	TS36.211	7.1.9	V.11.7.0	Sun Patent Trust	PCT/JP2010/002988	WO2010/125794	COMMUNICATION APPARATUS AND COMMUNICATION METHOD	PCT	2011-511305 2013-218064 13/266158 14/556938	2010-925794 2014-045501 2012-0039234  2010248656 10774746.1 PI1012199-4 10774746.1	JP JP US US AU BE BR CH
3GPP Release 10	TS36.300	16.1.5	V.10.12.0	Sun Patent Trust	PCT/JP2010/003289	WO2010/131487	Wireless communication terminal and communication method for measuring a channel	PCT	2010248656 10774746.1 PI1012199-4 10774746.1		AU BE BR CH



## ETSI Rules of Procedure, 29 November 2017

							quality indicator (CQI)		201080021399.1	102428737	CN
									201510648833.3	105207748	CN
									10774746.1		CZ
									10774746.1		DE
									10774746.1		DK
									10774746.1		ES
									10774746.1		FI
									10774746.1		FR
									10774746.1		GB
									10774746.1		GR
									10774746.1		HU
									10774746.1		IE
									07993/CHE/2011	07993/CHENP/2011	IN
									10774746.1		IT
									2011-513256	2010-931487	JP
									2014-248945	2015-073318	JP
									10-2011-7026032	2012-0016223	KR
									10774746.1		NL
									10774746.1		NO
									10774746.1		PL
									10774746.1		PT
									10774746.1		RO
									2011144126	2011144126	RU
									10774746.1		SE
									201108001-7		SG
									10774746.1		TR
									13/266634	2012-0063343	US
									15/178473		US
									15/605837	2017/0265098	US
									15/990322		US
									1-2011-02959		VN
3GPP Release 10	TS36.213	8.2	V.10.1 3.0	Sun Patent Trust	PCT/JP2010/003030	WO2010/140298	WIRELESS COMMUNICATION APPARATUS AND WIRELESS COMMUNICATION	PCT	201080024350.1	102804895	CN
									201710118893.3	107070622	CN
									10783086.1	2439997	EP



## ETSI Rules of Procedure, 29 November 2017

							METHOD		18102362.6	1243246	HK
									2011-518226	2010-940298	JP
									2013-265675	2014-057372	JP
									13/375437	2012-0076040	US
									14/044618	2014-0029556	US
									14/573901		US
									15/167691	20160278047	US
									15/671897	20170339674	US
									15/949832		US
3GPP Release 10	TS36.300	16.1.5	V.10.1 2.0	Sun Patent Trust	PCT/JP2010/00 3887	WO2010/143 445	RADIO COMMUNICATION TERMINAL AND RADIO COMMUNICATION METHOD	PCT	2010259807		AU
									PI1010612-0		BR
									201080025685.5	102804843	CN
									201610457537.X	105873125A	CN
									10785976.1		DE
									17163098.1	3203772	EP
									18102011.1		HK
									09206/CHE/2011	09206/CHE/2011	IN
									2011-518316	2010-943445	JP
									2014-194150	2014-239552	JP
									10-2011-7029513	2012-0027326	KR
									2011150043	2011150043	RU
									201109120-4		SG
									13/376694	2012-0099462	US
									14/179905	2014-0169205	US
									14/631694		US
									14/986030	2016/0113005	US
									15/383818	2017/0099651	US
									15/808745	20180070334	US
									1-2011-03418		VN
3GPP Release 10	TS36.213	5.1.1.2	V.10.1 3.0	Sun Patent Trust	PCT/JP2010/00 4235	WO2010/150 552	RADIO COMMUNICATION TERMINAL AND RADIO COMMUNICATION METHOD	PCT	PI1011761-0		BR
									2764776		CA
									201080028541.5	102804892	CN
									201510312355.9	104980261	CN
									10791874.0		DE





## ETSI Rules of Procedure, 29 November 2017

									17174244.8	3247159	EP
									10791874.0		ES
									10791874.0		FR
									10791874.0		GB
									18104925.2		HK
									10791874.0		IE
									2680/MUMNP/ 2011		IN
									10791874.0		IT
									2011-519610	2010-950552	JP
									2013-188260	2014-007762	JP
									10-2011- 7030724	2012-0041180	KR
									PI2011006013		MY
									10791874.0		NL
									2011152631	2011152631	RU
									10791874.0		SE
									10791874.0		TR
									13/377649	2012-0093020	US
									14/713993		US
									15/716256	20180020414	US
									1-2011-03290		VN
									2011/09422		ZA
3GPP Release 11	TS36.2 11	5.5.1.5	V.11.7. 0	Sun Patent Trust	PCT/JP2010/00 4625	WO2011/007 583	TERMINAL APPARATUS AND METHOD FOR TRANSMITTING A REFERENCE SIGNAL	PCT	201080028356. 6	102474849	CN
									10799647.2	2456270	EP
									2011-522743	2011-807583	JP
									15/087124		US
									13/383297	2012-0177090	US
									14/155874	2014-0126479	US
									14/639466		US
									15/661566		US
3GPP Release 10	TS36.2 13	9.1.1	V.10.1 3.0	Sun Patent Trust	PCT/JP2010/00 5070	WO2011/021 379	INTEGRATED CIRCUIT	PCT	15/894199		US
									2011-527577	2011-821379	JP
									2014-107980	2014-195313	JP
									15/098623		US
									13/388473	2012-0127946	US
3GPP	TS36.2	5.5.2.1	V.10.7.	Sun	PCT/JP2010/00	WO2011/040	TERMINAL STATION	PCT	15/634376		US
									10820155.9		BE



## ETSI Rules of Procedure, 29 November 2017

Release 10	11	0	Patent Trust	5893	034	APPARATUS, BASE STATION APPARATUS, TRANSMISSION METHOD AND CONTROL METHOD	112012006057-0		BR
							10820155.9		CH
							201080039455.4	102484519	CN
							201510368695.3	104901759	CN
							201610397518.2	106100709	CN
							10820155.9		CZ
							10820155.9		DE
							10820155.9		DK
							18161917.2	3364577	EP
							10820155.9		ES
							10820155.9		FI
							10820155.9		FR
							10820155.9		GB
							10820155.9		GR
							10820155.9		HU
							W00201201016	2012/01835	ID
							10820155.9		IE
							469/MUMNP/2012		IN
							201828004874		IN
							10820155.9		IT
							2011-534084	2011-840034	JP
							2014-077718	2014-161057	JP
							2015-027511	2015-128301	JP
							2016-013347		JP
							10-2012-7006732	2012-0086285	KR
							2012/003032		MX
							10820155.9		NL
							10820155.9		NO
							10820155.9		PL
							10820155.9		PT
							10820155.9		RO
							2012110044	2012110044	RU
							10820155.9		SE



## ETSI Rules of Procedure, 29 November 2017

									1201001128	120450	TH
									10820155.9		TR
									13/394789	2012-0170444	US
									14/547042	2015-0078151	US
									14/848167		US
									14/848149		US
									15/191317	20160308634	US
									15/358714	20170078039	US
									15/816703	20180091247	US
									16/040384		US
									1-2012-00476		VN
									1-2016-01873		VN
3GPP Release 10	TS36.2 13	7.3	V.10.1 3.0	Sun Patent Trust	PCT/JP2010/00 4881	WO2011/039 923	BASE STATION AND RELATED RADIO COMMUNICATION METHOD	PCT	2010302210		AU
									17152215.4		BE
									112012009379 -7	Journal No.2370	BR
									17152215.4		CH
									201080044638. 5	102550074	CN
									201410507942. 9	104243112	CN
									16156445.5		CZ
									17152215.4		CZ
									10820049.4	2485526	DE
									16156445.5		DE
									17152215.4		DE
									17152215.4		DK
									17152215.4	3179769	EP
									18174683.5		EP
									16156445.5		ES
									17152215.4		ES
									17152215.4		FI
									10820049.4	2485526	FR
									16156445.5		FR
									17152215.4		FR
									10820049.4	2485526	GB
									16156445.5		GB
									17152215.4		GB
									17152215.4		GR
									16156445.5		HU



## ETSI Rules of Procedure, 29 November 2017

								17152215.4		HU
								17152215.4		IE
								635/MUMNP/2012		IN
								201828019346		IN
								16156445.5		IT
								17152215.4		IT
								2011-534035	2011-839923	JP
								2013-188264	2013-255288	JP
								10-2012-7008070	2012-0081994	KR
								17152215.4		NL
								17152215.4		NO
								17152215.4		PL
								17152215.4		PT
								17152215.4		RO
								2012112210	2012112210	RU
								17152215.4		SE
								201201923-8		SG
								16156445.5		TR
								17152215.4		TR
								13/498287	2012-0182858	US
								14/169057	2014-0146733	US
								14/619615		US
								15/040855	20160165632	US
								15/252098	20160374075	US
								1-2012-00617		VN
3GPP Release 11	TS36.211	5.5.1.5	V.11.7.0	Sun Patent Trust	PCT/JP2010/006398	WO2011/052222	COMMUNICATION APPARATUS AND REFERENCE SIGNAL RECEIVING METHOD	PCT	10826358.3	AL
								10826358.3		AT
								10826358.3		BE
								10826358.3		BG
								10826358.3		CH
								10826358.3		CY
								10826358.3		CZ
								10826358.3		DE
								10826358.3		DK
								10826358.3		EE
								18155351.2	3337217	EP
								10826358.3		ES
								10826358.3		FI





## ETSI Rules of Procedure, 29 November 2017

									10826358.3		FR
									10826358.3		GB
									10826358.3		GR
									10826358.3		HR
									10826358.3		HU
									10826358.3		IE
									10826358.3		IS
									10826358.3		IT
									2011-538265	2011-852222	JP
									2014-130310	2014-212556	JP
									2015-148418	2015-228684	JP
									2016-235010		JP
									10-2012-7009546	2012-0112382	KR
									10826358.3		LT
									10826358.3		LU
									10826358.3		LV
									10826358.3		MC
									10826358.3		MK
									10826358.3		MT
									10826358.3		NL
									10826358.3		NO
									10826358.3		PL
									10826358.3		PT
									10826358.3		RO
									10826358.3		RS
									10826358.3		SE
									10826358.3		SI
									10826358.3		SK
									10826358.3		SM
									10826358.3		TR
									15/144904		US
									13/501914	2012-0207077	US
									14/294762	2014-0286260	US
									14/692391		US
									15/860776		US
3GPP Release 12	TS36.300	16.1.9	V12.10.0	Sun Patent Trust	PCT/JP2011/00060	WO2011/083774	Communication apparatus and communication method	PCT	201180005493.2	102696256	CN
									201610978783.X	107070507	CN



## ETSI Rules of Procedure, 29 November 2017

									2011-548992	2011-883774	JP
									2014-185000	2015-008530	JP
									2016-155844		JP
									2017-145716		JP
									13/520406	2013-0279403	US
									14/795334		US
									15/415070	20170134143	US
									15/988779		US
3GPP Release 10	TS36.2 12	5.2.2	V.10.9. 0	Sun Patent Trust	PCT/JP2011/00 0726	WO2011/099 282	TERMINAL AND COMMUNICATION METHOD THEREOF	PCT	112012018692 -2		BR
									201180007380. 6	102725984	CN
									201510349932. 1	104883247	CN
									11742031.5	2536052	EP
									W0020120299 2	2012/04822	ID
									1851/MUMNP/ 2012		IN
									2011-553759	2011-899282	JP
									2013-245345	2014-075819	JP
									2015-064043	2015-149743	JP
									2016-107533		JP
									10-2012- 7019715	2012-0125262	KR
									10-2016- 7031033		KR
									10-2017- 7031834		KR
									2012/008237		MX
									2014/011639		MX
									2012132181	2012132181	RU
									1201003720	124938	TH
									100104304	201212566	TW
									13/575278	2012-0288025	US
									14/312473		US
									15/461061	2017/0187495	US
									1-2012-02168		VN
3GPP Release 13	TS36.2 13	5.1.3.1	V.10.1 3.0	Sun Patent	PCT/JP2011/00 2479	WO2011/135 858	WIRELESS COMMUNICATION	PCT	2011246730		AU
									11774644.6		BE



## ETSI Rules of Procedure, 29 November 2017

se 10				Trust		DEVICE AND METHOD FOR CONTROLLING TRANSMISSION POWER		112012027810 -0		BR
								11774644.6		CH
								201180018643. 3	102835033	CN
								201510357667. 1	104994572	CN
								11774644.6		CZ
								11774644.6		DE
								11774644.6		DK
								11774644.6	2566058	EP
								18176568.6		EP
								11774644.6		ES
								11774644.6		FI
								11774644.6		FR
								11774644.6		GB
								11774644.6		GR
								11774644.6		HU
								11774644.6		IE
								2407/MUMNP/ 2012		IN
								11774644.6		IT
								2012-512673	2011-935858	JP
								2013-170299	2013-255278	JP
								2015-077686	2015-128328	JP
								2016-111995		JP
								10-2012- 7027862	2013-0098140	KR
								10-2017- 7016259		KR
								11774644.6		NL
								11774644.6		NO
								11774644.6		PL
								11774644.6		PT
								11774644.6		RO
								2012145853	2012145853	RU
								11774644.6		SE
								11774644.6		TR
								100115093	201220896	TW
								13/643256	2013-0040689	US



## ETSI Rules of Procedure, 29 November 2017

									14/702523		US
									15/355169	2017/0070964	US
3GPP Release 11	TS36.2 13	9.1.4	V.11.1 3.0	Sun Patent Trust	PCT/JP2011/00 3899	WO2012/011 239	COMMUNICATION APPARATUS AND COMMUNICATION METHOD FOR RECEIVING CONTROL INFORMATION OVER A SEARCH SPACE	PCT	201180034284.0	102986285	CN
									201510305432.8	105024792	CN
									2012-525306	2012-811239	JP
									13/811031	2013-0121295	US
									14/698014	2015-0289239	US
									14/955964		US
									15/871194		US
3GPP Release 11	TS36.2 13	9.1	V.11.1 3.0	Sun Patent Trust	PCT/JP2011/00 3901	WO2012/011 241	Base station, terminal, search space setting method and decoding method	PCT	201180034975.0	103004272	CN
									201610128570.8	105610562A	CN
									11809419.2	2597919	EP
									2012-525308	2012-811241	JP
									2015-161763	2015-233334	JP
									2016-152990		JP
									2017-191062		JP
									13/806631	2013-0100921	US
									14/681867		US
3GPP Release 11	TS36.2 13	9.1.4	V.11.1 3.0	Sun Patent Trust	PCT/JP2011/00 3900	WO2012/011 240	BASE STATION, TERMINAL, TRANSMISSION METHOD AND RECEPTION METHOD	PCT	131/MUMNP/2013		IN
									2012-525307	2012-811240	JP
									2015-068354	2015-149748	JP
									13/810817	2013-0114563	US
									14/656245	2015-0189633	US
									14/830007		US
									15/369139		US
									15/478701		US
									15/883760		US
3GPP Release 10	TS36.2 13	8.1.2	V.10.1 3.0	Sun Patent Trust	PCT/JP2011/00 3337	WO2011/161 896	Integrated circuit for controlling generation, transmission and reception of resource allocation information,	PCT	112012031092-5		BR
									2801365		CA
									201180023947.9	102893652	CN





## ETSI Rules of Procedure, 29 November 2017

							and data allocation based on the resource allocation information		201610474123.8	105873131A	CN
									11797785.0	2584828	EP
									2680/MUMNP/2012		IN
									2012-521292	2011-961896	JP
									2015-052190	2015-144477	JP
									2017-051275		JP
									10-2012-7031972	2013-0088749	KR
									PI2012701096		MY
									2012152649	2012152649	RU
									100121399	201214995	TW
									15/134151	20160234824	US
									13/702901	2013-0089056	US
									14/658083		US
									16/039000		US
									1-2012-03659		VN
									2012/09174		ZA
3GPP Release 11	TS36.213	9.1.4	V.11.1 3.0	Sun Patent Trust	PCT/JP2011/004699	WO2012/032726	COMMUNICATION APPARATUS AND COMMUNICATION RECEPTION METHOD	PCT	112013005433-6	Journal No.2370	BR
									201180042257.8	103081386	CN
									201510608388.8	105162567	CN
									11823207.3	2615754	EP
									13190847.7	2704350	EP
									W00201300943		ID
									279/MUMNP/2013		IN
									2012-532843	2012-832726	JP
									2015-029855	2015-146577	JP
									10-2013-7005641	2013-0105820	KR
									10-2017-7035591	10-2017-0140431	KR
									2013/002080		MX
									2013109998	2013109998	RU
									1301001093	130379	TH



## ETSI Rules of Procedure, 29 November 2017

									13/814923		US
									14/800299		US
									15/422200	20170142701	US
									1-2013-00527		VN
									1-2016-04753		VN
3GPP Release 10	TS36.2 12	5.2.2.6	V.10.9. 0	Sun Patent Trust	PCT/JP2011/00 3198	WO2011/161 887	COMMUNICATION APPARATUS AND COMMUNICATION METHOD THEREOF	PCT	11797776.9		AL
									11797776.9		AT
									2011270584	2011270584	AU
									2014202552		AU
									11797776.9		BE
									11797776.9		BG
									112012031268 -5		BR
									11797776.9		CH
									201180026631. 5	102934482	CN
									201511009969. 6	105554814A	CN
									11797776.9		CY
									11797776.9		CZ
									11797776.9		DE
									11797776.9		DK
									11797776.9		EE
									18152437.2	3340675	EP
									11797776.9		ES
									11797776.9		FI
									11797776.9		FR
									11797776.9		GB
									11797776.9		GR
									11797776.9		HR
									11797776.9		HU
									11797776.9		IE
									2601/MUMNP/ 2012		IN
									11797776.9		IS
									11797776.9		IT
									2012-521285	2011-961887	JP
									2015-048385	2015-146602	JP
									10-2012- 7031949	2013-0118738	KR



## ETSI Rules of Procedure, 29 November 2017

									10-2017-7015368		KR
									11797776.9		LT
									11797776.9		LU
									11797776.9		LV
									11797776.9		MC
									11797776.9		MK
									11797776.9		MT
									11797776.9		NL
									11797776.9		NO
									11797776.9		PL
									11797776.9		PT
									11797776.9		RO
									11797776.9		RS
									2012152641	2012152641	RU
									2015120327		RU
									11797776.9		SE
									201209032-0	186233	SG
									10201404644V		SG
									11797776.9		SI
									11797776.9		SK
									11797776.9		SM
									11797776.9		TR
									100121401	201208279	TW
									104137384	201624939	TW
									13/699557	2013-064212	US
									14/447259		US
									15/294301	20170033910	US
									15/664689	20180048449	US
									16/040304		US
									1-2012-03239		VN
									1-2017-05062		VN
3GPP Release 11	TS36.213	10.1.2.2.1	V.11.13.0	Sun Patent Trust	PCT/JP2011/004631	WO2012/029246	TERMINAL, BASE STATION, INTEGRATED CIRCUIT AND SIGNAL TRANSMISSION CONTROL METHOD	PCT	201180041311.7	103081548	CN
									201610591880.3	106027219	CN
									11821271.1		DE
									17161508.1	3203677	EP
									11821271.1		FR
									11821271.1		GB



## ETSI Rules of Procedure, 29 November 2017

									18102012.0	1242863	HK
									2012-531670	2012-829246	JP
									2015-196725	2016-028507	JP
									2016-157949		JP
									2017-115100		JP
									13/813615	2013-0128857	US
									14/748013		US
									15/615577	2017/0273105	US
3GPP Release 10	TS36.2 11	5.5.2.1, 1	V.10.7, 0	Sun Patent Trust	PCT/JP2011/00 4322	WO2012/020 552	TERMINAL DEVICE, BASE STATION DEVICE, RETRANSMISSION METHOD, AND RESOURCE ALLOCATION METHOD	PCT	112013003381 -9		BR
									201180038797. 9	103069734	CN
									201510531062. X	105207702	CN
									11816222.1	2605434	EP
									13186101.5	2680482	EP
									W0020130058 0	2013/03483	ID
									283/MUMNP/2 013		IN
									2012-528591	2012-820552	JP
									2015-025530	2015-122790	JP
									10-2013- 7003251	2013-0100770	KR
									10-2017- 7030898		KR
									2013/001707		MX
									2013105781	2013105781	RU
									1301000707	128756	TH
3GPP Release 10	TS36.2 13	8.2	V.10.1 3.0	Sun Patent Trust	PCT/JP2011/00 4939	WO2012/049 804	COMMUNICATION APPARATUS AND COMMUNICATION METHOD	PCT	112013008522 -3		BR
									201180047183. 7	103141143	CN
									201610397325. 7	105871529A	CN
									11832250.2	2629578	DE





## ETSI Rules of Procedure, 29 November 2017

									W00201301468		ID
									665/MUMNP/2013		IN
									2012-538555	2012-849804	JP
									2013-207258	2013-258785	JP
									10-2013-7009009	2013-0143030	KR
									2013/003466		MX
									2014/011741		MX
									2013116387	2013116387	RU
									1301001920	128764	TH
									100132999	201220756	TW
									13/823351	2013-0170466	US
									14/517742		US
									15/046332	20160165582	US
									15/385323	2017/0105201	US
									15/710652	20180014285	US
									1-2013-01066		VN
3GPP Release 10	TS36.213	8.2	V.10.13.0	Sun Patent Trust	PCT/JP2011/006145	WO2012/066736	COMMUNICATION APPARATUS AND COMMUNICATION METHOD	PCT	201610251639.6	105790891A	CN
									201180054682.9	103210694	CN
									11842031.4	2642810	EP
									2012-544090	2012-866736	JP
									2015-123861	2015-216653	JP
									2016-100326		JP
									2017-104489		JP
									100141050	201230714	TW
									13/883255	2013-0223394	US
									14/624225	2015-0163705	US
									14/834048		US
									14/834057		US
									15/190051	20160302191	US
									15/673093	20170359816	US
3GPP Release 10	TS36.211	5.5.3.2	V.10.7.0	Sun Patent Trust	PCT/JP2011/007109	WO2012/093449	TRANSMITTER, RECEIVER, TRANSMISSION METHOD, AND RECEPTION METHOD	PCT	2011354040		AU
									112013017209-6		BR
									201180061067.0	103270713	CN



## ETSI Rules of Procedure, 29 November 2017

									11854608.4	2663000	EP
									1003/MUMNP/2013		IN
									2012-551754	2012-893449	JP
									2015-127479	2015-228659	JP
									2016-171687		JP
									10-2013-7016465	10-2014-0016874	KR
									2013130729	2013130729	RU
									201305197-4	191862	SG
									100147985	201233089	TW
									13/991600	2013-0258894	US
									14/746549		US
									15/371772	2017/0094666	US
									1-2013-01767		VN
									1-2016-04679		VN
3GPP Release 10	TS36.31	5.3.11	V.10.2 2.0	Sun Patent Trust	PCT/JP2012/000496	WO2012/111260	WIRELESS COMMUNICATION TERMINAL, WIRELESS COMMUNICATION BASE STATION, WIRELESS COMMUNICATION SYSTEM, AND REPORTING METHOD	PCT	201280008291.8	103348724	CN
									201611253626.9	106879021	CN
									12746542.5	2677798	EP
									2012-557810	2012-911260	JP
									2015-174789	2016-007073	JP
									2017-094980		JP
									2018-111965		JP
									101103048	201238262	TW
									15/071078	20160198357	US
									13/984199		US
3GPP Release 10	TS36.213	10.1.2.2.1	V.10.1 3.0	Sun Patent Trust	PCT/JP2011/004943	WO2012/035712	INTEGRATED CIRCUIT FOR RETRANSMISSION CONTROL	PCT	15/825013	20180091995	US
									2011303345	2011303345	AU
									112013006339-4		BR
									201180044176.1	103098405	CN
									201510463228.9	105162550	CN
									11824732.9	2618514	CZ
									14159123.0		CZ
									11824732.9	2618514	DE
									14159123.0		DE



## ETSI Rules of Procedure, 29 November 2017

									11824732.9	2618514	ES
									14159123.0		ES
									11824732.9	2618514	FR
									14159123.0		FR
									11824732.9	2618514	GB
									14159123.0		GB
									11824732.9	2618514	HU
									14159123.0		HU
									443/MUMNP/2013		IN
									11824732.9	2618514	IT
									14159123.0		IT
									2012-533843	2012-835712	JP
									2016-060060		JP
									10-2013-7006651	2013-0100130	KR
									2013111528	2013111528	RU
									201301784-3	188498	SG
									11824732.9	2618514	TR
									14159123.0		TR
									13/820415	2013-0163406	US
									14/675352		US
									15/157170	20160261378	US
									15/491731	2017/0222765	US
									15/887860		US
									1-2013-00528		VN
									1-2016-02912		VN
3GPP Release 11	TS36.213	10.2	V.11.1 3.0	Sun Patent Trust	PCT/JP2012/004246	WO2013/008404	COMMUNICATION APPARATUS AND COMMUNICATION METHOD	PCT	16188245.1		AL
									16188245.1		AT
									16188245.1		BE
									16188245.1		BG
									112013030774-9		BR
									2834486		CA
									16188245.1		CH
									201280021118.1	103503508	CN
									201610951899.4	107017974	CN
									16188245.1		CY



## ETSI Rules of Procedure, 29 November 2017

								16188245.1		CZ
								12810857.8		DE
								16188245.1		DE
								16188245.1		DK
								16188245.1		EE
								16188245.1		EP
								18174530.8		EP
								12810857.8		ES
								16188245.1		ES
								16188245.1		FI
								12810857.8		FR
								16188245.1		FR
								12810857.8		GB
								16188245.1		GB
								16188245.1		GR
								18101229.1	1242075	HK
								16188245.1		HR
								16188245.1		HU
								12810857.8		IE
								16188245.1		IE
								1962/MUMNP/ 2013		IN
								16188245.1		IS
								12810857.8		IT
								16188245.1		IT
								2013-523791	2013-808404	JP
								2016-039938		JP
								2017-078970		JP
								10-2013- 7028547	2014-0033033	KR
								10-2018- 7015597		KR
								16188245.1		LT
								16188245.1		LU
								16188245.1		LV
								16188245.1		MC
								16188245.1		MK
								16188245.1		MT
								PI2013702029		MY
								PI2017000212		MY





									12810857.8		NL
									16188245.1		NL
									16188245.1		NO
									16188245.1		PL
									16188245.1		PT
									16188245.1		RO
									16188245.1		RS
									2013153268	2013153268	RU
									12810857.8		SE
									16188245.1		SE
									16188245.1		SI
									16188245.1		SK
									16188245.1		SM
									12810857.8		TR
									16188245.1		TR
									14/114705	2014-0064233	US
									14/874114		US
									15/250679	20160373219	US
									15/592023	2017/0245274	US
									1-2013-03457		VN
									2013/08080		ZA
3GPP Release 11	TS36.31	6.2.3	V11.19.0	Sun Patent Trust	PCT/JP2012/004253	WO2013/008406	TERMINAL APPARATUS, BASE STATION AND COMMUNICATION METHOD	PCT	201280020253.4	103503523	CN
									201711379519.5	107968700	CN
									12812136.5		DE
									12812136.5	2693813	EP
									18187417.3		EP
									12812136.5		FR
									12812136.5		GB
									2013-523793	2013-808406	JP
									2016-202801		JP
									2018-080786		JP
									14/113651		US
									15/341786	20170078980	US
3GPP Release 10	TS36.213	10.1.2.2.1	V.10.13.0	Sun Patent Trust	PCT/JP2011/007106	WO2012/093448	TERMINAL DEVICE, BASE STATION DEVICE, TRANSMITTING	PCT	112013017256-8		BR
									201610262220.0	105812101A	CN



## ETSI Rules of Procedure, 29 November 2017

							METHOD AND RECEIVING METHOD		201180062646.7	103283292	CN
									11854969.0	2663149	EP
									W00201303005	2014/04595	ID
									1004/MUMNP/2013		IN
									2012-551753	2012-893448	JP
									2013-214688	2014-045493	JP
									2015-004267	2015-111876	JP
									10-2013-7016066	2013-0135275	KR
									2013/007145		MX
									2014/011638		MX
									2013130668	2013130668	RU
									1301003736	135321	TH
									100147980	201240509	TW
									13/990395	2013-0250901	US
									14/500792	2015-0016398	US
									14/729922		US
									15/042028	20160165594	US
									15/263215	20160381677	US
									15/494006	2017/0230965	US
									15/729513	20180049187	US
									1-2013-01768		VN
3GPP Release 12	TS36.213	5.1.3.1	V12.12.0	Sun Patent Trust	PCT/JP2012/005950	WO2013/051206	TERMINAL, BASE AND STATION, COMMUNICATION METHOD	PCT	201280041878.9	103765969	CN
									201810183838.7	108282854	CN
									12838410.4	2765816	EP
									2013-537390	2013-851206	JP
									2016-218919		JP
									2018-108708		JP
									14/239907		US
									15/285386	20170026919	US
3GPP Release 11	TS36.213	9.1.4	V.11.13.0	Sun Patent Trust	PCT/EP2007/000648	WO2007/096038	RESOURCE BLOCK CANDIDATE SELECTION TECHNIQUE EMPLOYING PACKET	PCT	200780006698.6	101390325	CN
									201410569314.3	104320228	CN
									06003825.4	1826939	DE



## ETSI Rules of Procedure, 29 November 2017

							SCHEDULING WIRELESS COMMUNICATION SYSTEMS	IN		16167758.8	3073664	EP
										06003825.4	1826939	FR
										06003825.4	1826939	GB
										2008-555654	2009-527958	JP
										2011-160902	2012-010348	JP
										12/162589	2009-0219870	US
										14/141323		US
										14/749364		US
										15/164794		US
										15/483950		US
3GPP Release 10	TS36.2 11	6.10.5	V.10.7. 0	Sun Patent Trust	PCT/CN2010/07 1663	WO2010/124 553	METHOD AND COMMUNICATION APPARATUS FOR MAPPING REFERENCE SIGNAL IN WIRELESS COMMUNICATION SYSTEM	PCT	PI1016053-1			BR
									2760109			CA
									201080018780. 2	102415121		CN
									201410534321. X	104284342		CN
									10769242.8			DE
									17206993.2	3337211		EP
									10769242.8			FR
									10769242.8			GB
									2284/MUMNP/ 2011			IN
									2012-506319	2012-525022		JP
									10-2011- 7025317	2012-0016614		KR
									PI2011005197			MY
									2011143358	2011143358		RU
									13/266441	2012-0115521		US
									14/338246			US
									15/363732	2017/0149544		US
									15/947536			US
									1-2011-02789			VN
									2011/07825			ZA
3GPP Release 11	TS36.2 13	5.1.1.1	V.11.1 3.0	Sun Patent Trust	PCT/EP2010/00 2119	WO2010/121 708	TRANSMIT POWER CONTROL FOR PHYSICAL RANDOM ACCESS CHANNELS	PCT	201080017791. 9	102415187		CN
									10712364.8	2422564		DE
									13174017.7			DE
									10712364.8	2422564		FR
									13174017.7			FR
									10712364.8	2422564		GB



## ETSI Rules of Procedure, 29 November 2017

									13174017.7		GB
									2012-506362	2012-525030	JP
									13/265468	2012-0057547	US
3GPP Release 11	TS36.2 13	5.1.1.1	V.11.1 3.0	Sun Patent Trust	PCT/EP2011/00 1658	WO2011/120 716	TRANSMIT POWER CONTROL FOR PHYSICAL RANDOM ACCESS CHANNELS	PCT	14166105.8		AL
									14166105.8		AT
									14166105.8		BE
									14166105.8		BG
									112012024838 -3		BR
									2793703		CA
									14166105.8		CH
									201180027312. 6	102918896	CN
									201610833778. X	106851808	CN
									14166105.8		CY
									14166105.8		CZ
									11712183.0	2553986	DE
									14166105.8		DE
									14166105.8		DK
									14166105.8		EE
									18162253.1	3358890	EP
									11712183.0	2553986	ES
									14166105.8		ES
									14166105.8		FI
									11712183.0	2553986	FR
									14166105.8		FR
									11712183.0	2553986	GB
									14166105.8		GB
									14166105.8		GR
									14166105.8		HR
									14166105.8		HU
									14166105.8		IE
									2766/KOLNP/2 012		IN
									14166105.8		IS
									11712183.0	2553986	IT
									14166105.8		IT
									2013-501697	2013-529403	JP
									2014-190353	2015-008532	JP





## ETSI Rules of Procedure, 29 November 2017

									2015-170698	2016-028475	JP
									2016-188518		JP
									2017-114668		JP
									10-2012-7025553		KR
									10-2017-7030269		KR
									10-2018-7017679		KR
									14166105.8		LT
									14166105.8		LU
									14166105.8		LV
									14166105.8		MC
									14166105.8		MK
									14166105.8		MT
									PI2016000432		MY
									PI2012004159		MY
									14166105.8		NL
									14166105.8		NO
									14166105.8		PL
									14166105.8		PT
									14166105.8		RO
									14166105.8		RS
									2012141318	2012141318	RU
									11712183.0	2553986	SE
									14166105.8		SE
									14166105.8		SI
									14166105.8		SK
									14166105.8		SM
									11712183.0	2553986	TR
									14166105.8		TR
									13/637607		US
									14/657891		US
									15/232696		US
									1-2012-02824		VN
									2012/07271		ZA
3GPP Release 10	TS36.2 13	7.2.1	V.10.1 3.0	Sun Patent Trust	PCT/EP2010/00 4722	WO2011/015 331	APERIODIC TRIGGERING OF CHANNEL QUALITY INFORMATION USING	PCT	16181832.3		AL
									16181832.3		AT
									2010281026		AU
									16181832.3		BE



## ETSI Rules of Procedure, 29 November 2017

							PHYSICAL DOWNLINK CONTROL CHANNEL	16181832.3		BG
								112012002440		BR
								-0		
								16181832.3		CH
								201080044594.	102598760	CN
								6		
								201510783183.	105306172	CN
								3		
								16181832.3		CY
								10751789.8		CZ
								13176057.1		CZ
								16181832.3		CZ
								10751789.8		DE
								13176057.1		DE
								16181832.3		DE
								16181832.3		DK
								16181832.3		EE
								18153018.9	3331269	EP
								10751789.8		ES
								13176057.1		ES
								16181832.3		ES
								16181832.3		FI
								10751789.8		FR
								13176057.1		FR
								16181832.3		FR
								10751789.8		GB
								13176057.1		GB
								16181832.3		GB
								16181832.3		GR
								16181832.3		HR
								10751789.8		HU
								13176057.1		HU
								16181832.3		HU
								16181832.3		IE
								209/KOLNP/20		IN
								12		
								16181832.3		IS
								10751789.8		IT
								13176057.1		IT
								16181832.3		IT



## ETSI Rules of Procedure, 29 November 2017

									2012-523237	2013-501441	JP
									2014-111564	2014-195317	JP
									10-2012-7003137		KR
									10-2016-7031335		KR
									16181832.3		LT
									16181832.3		LU
									16181832.3		LV
									16181832.3		MC
									16181832.3		MK
									16181832.3		MT
									16181832.3		NL
									16181832.3		NO
									16181832.3		PL
									16181832.3		PT
									16181832.3		RO
									2012103605	2012103605	RU
									16181832.3		SE
									201200667-2		SG
									16181832.3		SI
									16181832.3		SK
									16181832.3		SM
									10751789.8		TR
									13176057.1		TR
									16181832.3		TR
									13/388282	2012-0147831	US
									14/098389		US
									14/577133		US
									15/451248		US
									1-2012-00277		VN
3GPP Release 10	TS36.216	7.3	V.10.3.1	Sun Patent Trust	PCT/EP2010/004795	WO2011/038801	HARQ PROTOCOL	PCT	2010301594		AU
									112012007094-0		BR
									201080054645.3	102648598	CN
									13175328.7	2648357	EP
									754/KOLNP/2012		IN
									2012-531250	2013-506367	JP



## ETSI Rules of Procedure, 29 November 2017

									2014-238060	2015-092676	JP
									10-2012-7008177		KR
									10-2018-7004002		KR
									2012112216	2012112216	RU
									201202192-9		SG
									15/090427		US
									13/498551	2012-0201229	US
									14/455739		US
									15/655685		US
									1-2012-00841		VN
3GPP Release 10	TS36.321	5.4.6	V.10.1 0.0	Sun Patent Trust	PCT/EP2010/006423	WO2011/050921	POWER-LIMIT REPORTING IN A COMMUNICATION SYSTEM USING CARRIER AGGREGATION	PCT	10773252.1		AL
									10773252.1		AT
									2010311871		AU
									10773252.1		BE
									10773252.1		BG
									1120120100220		BR
									10773252.1		CH
									201080060276.9	102687577	CN
									10773252.1		CY
									10773252.1		CZ
									10773252.1		DE
									10773252.1		DK
									10773252.1		EE
									18172137.4		EP
									10773252.1		ES
									10773252.1		FI
									10773252.1		FR
									10773252.1		GB
									10773252.1		GR
									10773252.1		HR
									10773252.1		HU
									10773252.1		IE
									1083/KOLNP/2012		IN
									10773252.1		IS
									10773252.1		IT





## ETSI Rules of Procedure, 29 November 2017

									2012-535658	2013-509759	JP
									2015-032211	2015-144448	JP
									2016-047153		JP
									2017-088346		JP
									2018-097827		JP
									10-2012-7011258		KR
									10773252.1		LT
									10773252.1		LU
									10773252.1		LV
									10773252.1		MC
									10773252.1		MK
									10773252.1		MT
									10773252.1		NL
									10773252.1		NO
									10773252.1		PL
									10773252.1		PT
									10773252.1		RO
									10773252.1		RS
									2012117776		RU
									2014112317		RU
									10773252.1		SE
									201203074-8		SG
									10773252.1		SI
									10773252.1		SK
									10773252.1		SM
									10773252.1		TR
									13/503739	2012-0224552	US
									14/316465		US
									14/866696		US
									15/353323		US
									15/702607		US
									1-2012-01194		VN
3GPP Release 10	TS36.321	6.1.3.8	V.10.1 0.0	Sun Patent Trust	PCT/EP2011/00 0532	WO2011/098 236	COMPONENT CARRIER (DE)ACTIVATION IN COMMUNICATION SYSTEMS USING CARRIER AGGREGATION	PCT	11702404.2		AL
									11702404.2		AT
									11702404.2		BE
									11702404.2		BG
									112012019967 -6		BR
									2,789,380		CA



## ETSI Rules of Procedure, 29 November 2017

								11702404.2		CH
								201610238184.4	105681013	CN
								201180018642.9	102870365	CN
								11702404.2		CY
								11702404.2		CZ
								13182740.4	2672649	DE
								11702404.2		DE
								11702404.2		DK
								11702404.2		EE
								17194960.5	3292635	EP
								11702404.2		ES
								11702404.2		FI
								13182740.4	2672649	FR
								11702404.2		FR
								13182740.4	2672649	GB
								11702404.2		GB
								11702404.2		GR
								11702404.2		HR
								11702404.2		HU
								11702404.2		IE
								2077/KOL/2012		IN
								11702404.2		IS
								11702404.2		IT
								2012-552300	2013-520053	JP
								2015-102861	2015-181267	JP
								2016-214533		JP
								10-2012-7021165		KR
								10-2017-7025042		KR
								11702404.2		LT
								11702404.2		LU
								11702404.2		LV
								11702404.2		MC
								11702404.2		MK
								11702404.2		MT
								PI2016000613		MY



## ETSI Rules of Procedure, 29 November 2017

									PI2012003563		MY
									11702404.2		NL
									11702404.2		NO
									11702404.2		PL
									11702404.2		PT
									11702404.2		RO
									11702404.2		RS
									2012134196	2012134196	RU
									11702404.2		SE
									11702404.2		SI
									11702404.2		SK
									11702404.2		SM
									11702404.2		TR
									100102621	201145888	TW
									13/578216		US
									14/598093		US
									15/276465		US
									1-2012-02378		VN
									2012/05974		ZA
3GPP Release 10	TS36.2 13	7.2.4	V.10.1 3.0	Sun Patent Trust	PCT/CN2011/07 1812	WO2011/113 344	BASE STATION APPARATUS AND TRANSMISSION METHOD	PCT	112012023249 -5		BR
									201180013726. 3	102792608	CN
									201410309147. 9	104618001	CN
									201610663481. 3	106160829	CN
									11755661.3	2548315	EP
									W0020120366 7		ID
									2157/MUMNP/ 2012		IN
									2012-557387	2013-522988	JP
									2013-220214	2014-030265	JP
									2014-153833	2015-008477	JP
									2015-177564	2016-026442	JP
									10-2012- 7023921	2013-0016226	KR
									10-2017- 7004932	10-2017- 0023213	KR



## ETSI Rules of Procedure, 29 November 2017

									2012/010508		MX
									2012139265	2012139265	RU
									1201004674	126543	TH
									13/634210	2013-0010895	US
									14/316634	2014-0307823	US
									14/615359		US
									15/426939	2017/0149482	US
									15/724111	20180083677	US
									1-2012-02572		VN
3GPP Release 10	TS36.211	5	V.10.7.0	Sun Patent Trust	PCT/JP2005/013755	WO2006/011524	Transmitting apparatus, receiving apparatus, transmitting method, and receiving method	PCT	200580025069.9	1989749	CN
									201010164893.5	101860510	CN
									05767391.5	1775901	DE
									14188590.5	2827545	DE
									05767391.5	1775901	FR
									14188590.5	2827545	FR
									05767391.5	1775901	GB
									14188590.5	2827545	GB
									2005-210253	2006-287895	JP
									11/658503	2008-0304584	US
3GPP Release 11	TS36.211	6.8A.1	V.11.7.0	Sun Patent Trust	PCT/EP2011/000942	WO2011/128013	MAPPING OF CONTROL INFORMATION TO CONTROL CHANNEL ELEMENTS	PCT	13/538839	2012-0263140	US
									11705823.0	2559191	DE
									15151107.8	2866375	DE
									16151461.7		DE
									15151107.8	2866375	FR
									16151461.7		FR
									15151107.8	2866375	GB
									16151461.7		GB
									2013-504143	2013-529414	JP
									2015-002457	2015-111871	JP
									2015-229817		JP
									13/640391	2013-0223402	US
3GPP Release 10	TS36.211	6.10.3	V.10.7.0	Sun Patent Trust	PCT/CN2011/072389	WO2011/137699	COMMUNICATION METHOD AND COMMUNICATION APPARATUS	PCT	14/602755		US
									15/147285		US
									15/819202		US
3GPP Release 10	TS36.211	6.10.3	V.10.7.0	Sun Patent Trust	PCT/CN2011/072389	WO2011/137699	COMMUNICATION METHOD AND COMMUNICATION APPARATUS	PCT	201180022406.4	102870357	CN
									11777120.4	2567481	EP
									2013-508359	2013-530593	JP





## ETSI Rules of Procedure, 29 November 2017

									2014-020336	2014-079023	JP
									13/696052	2013-0044580	US
									14/455236	2014-0347971	US
									14/799443		US
									15/163250	20160269161	US
									15/426937	2015/0149520	US
									15/921482		US
3GPP Release 10	TS36.2 13	8.1.2	V.10.1 3.0	Sun Patent Trust	PCT/EP2012/00 1039	WO2012/126 577	Resource assignment for single and multiple cluster transmission	PCT	17182318.0		AL
									17182318.0		AT
									17182318.0		BE
									17182318.0		BG
									BR1120130239 27-1		BR
									17182318.0		CH
									201280024074. 8	103548407	CN
									201710886528. 7		CN
									17182318.0		CY
									17182318.0		CZ
									12708250.1	2689620	DE
									15169882.6		DE
									16181265.6		DE
									17182318.0		DE
									12708250.1	2689620	DK
									15169882.6		DK
									16181265.6		DK
									17182318.0		DK
									17182318.0		EE
									17182318.0	3255946	EP
									12708250.1	2689620	ES
									15169882.6		ES
									16181265.6		ES
									17182318.0		ES
									12708250.1	2689620	FI
									15169882.6		FI
									16181265.6		FI
									17182318.0		FI
									12708250.1	2689620	FR
									15169882.6		FR



## ETSI Rules of Procedure, 29 November 2017

								16181265.6		FR
								17182318.0		FR
								12708250.1	2689620	GB
								15169882.6		GB
								16181265.6		GB
								17182318.0		GB
								17182318.0		GR
								17182318.0		HR
								17182318.0		HU
								W0020130416 2		ID
								17182318.0		IE
								7469/CHENP/2 013		IN
								17182318.0		IS
								12708250.1	2689620	IT
								15169882.6		IT
								16181265.6		IT
								17182318.0		IT
								2014-500272	2014-512114	JP
								2016-017729		JP
								2017-131864		JP
								2018-119231		JP
								10-2013- 7024646		KR
								17182318.0		LT
								17182318.0		LU
								17182318.0		LV
								17182318.0		MC
								17182318.0		MK
								17182318.0		MT
								2013/010739		MX
								MX/a/2016/012 913		MX
								17182318.0		NL
								17182318.0		NO
								17182318.0		PL
								17182318.0		PT
								17182318.0		RO
								17182318.0		RS



## ETSI Rules of Procedure, 29 November 2017

									2013142762	2013142762	RU
									17182318.0		SE
									17182318.0		SI
									17182318.0		SK
									17182318.0		SM
									1301005207	142709	TH
									12708250.1	2689620	TR
									15169882.6		TR
									16181265.6		TR
									17182318.0		TR
									101108615	201244516	TW
									14/006095		US
									15/179708		US
									15/627282		US
									1-2013-03010		VN
3GPP Release 11	TS36.211	4.2	V.11.7.0	Sun Patent Trust	PCT/JP2012/004787	WO2013/021569	TERMINAL DEVICE, BASE STATION DEVICE, AND TRANSMISSION/RECEPTION METHOD	PCT	201280026565.6	103563436	CN
									201710695790.3	107294668	CN
									12822419.3	2704482	EP
									18101920.3	1242860	HK
									2013-527862	2013-821569	JP
									2016-052629		JP
									14/122068		US
									15/212081	20160330009	US
3GPP Release 11	TS36.211	6.8A.1	V.11.7.0	Sun Patent Trust	PCT/JP2012/004786	WO2013/024569	COMMUNICATION APPARATUS AND COMMUNICATION METHOD	PCT	112013030743-9		BR
									2837682		CA
									201280026084.5	103563468	CN
									201710497493.8	107196742	CN
									12824546.1	2704506	EP
									18101922.1	1242861	HK
									2221/MUMNP/2013		IN
									2013-528907	2013-824569	JP
									2016-196616		JP



## ETSI Rules of Procedure, 29 November 2017

									10-2013-7030897	2014-0053889	KR
									PI2013702247		MY
									PI2017000505		MY
									2013152972	2013152972	RU
									14/122585		US
									15/059204		US
									15/370814	2017/0086218	US
									15/685752	20170353969	US
									1-2013-03779		VN
									2013/08969		ZA
3GPP Release 12	TS36.213	7.2.3	V12.12.0	Sun Patent Trust	PCT/EP2012/065723	WO2013/024042	CHANNEL QUALITY INFORMATION REPORTING FOR SUBFRAMES	PCT	12761916.1	2742721	EP
									2014-524407	2014-522194	JP
									2016-245475		JP
									2018-016512		JP
									14/237742		US
									15/491685		US
3GPP Release 11	TS36.213	9.1.4	V11.13.0	Sun Patent Trust	PCT/JP2013/000004	WO2013/108585	Transmitting device, receiving device, transmitting method, and receiving method	PCT	201380000867.0	103477694	CN
									201710654291.X	107592191	CN
									13738307.1	2797372	EP
									18102685.6	1243249	HK
									2013-554234	2013-908585	JP
									2016-181699		JP
									14/005522		US
									15/278962	20170019889	US
									15/599300	2017/0257856	US
									15/959002		US
3GPP Release 12	TS36.321	5.7	V12.10.0	Sun Patent Trust	PCT/EP2012/073463	WO2013/110372	Discontinuous reception operation of a mobile terminal	PCT	201280071798.8	104205993	CN
									201810287611.7		CN
									12788581.2	2807894	EP
									2014-553638	2015-512178	JP
									2017-176734		JP
									14/372716		US
									15/164755		US
									15/469118		US
									15/965279		US





## ETSI Rules of Procedure, 29 November 2017

3GPP Release 11	TS36.2 13	9.1.4	V.11.1 3.0	Sun Patent Trust	PCT/EP2013/05 1213	WO2013/135 407	SEARCH SPACE FOR EPDCCH CONTROL INFORMATION IN AN OFDM-BASED MOBILE COMMUNICATION SYSTEM	PCT	112013028867 -1		BR
									201380001386. 1	103748824	CN
									201710607892. 5		CN
									13702390.9		DE
									17188673.2		DE
									17188673.2	3267614	EP
									13702390.9		FR
									17188673.2		FR
									13702390.9		GB
									17188673.2		GB
									18105177.4		HK
									W0020130504 3		ID
									8806/CHENP/2 013		IN
									2014-561333	2015-515778	JP
									2016-214546		JP
									10-2013- 7030310		KR
									MX/A/2016/004 196		MX
									2013/013459		MX
									2013150989		RU
									1301006420	142718	TH
									102104599	201340669	TW
3GPP Release 12	TS36.3 21	5.4.5	V12.10 .0	Sun Patent Trust	PCT/EP2013/05 2339	WO2013/164 105	THRESHOLD-BASED AND POWER- EFFICIENT SCHEDULING REQUEST PROCEDURE	PCT	16151516.8		BE
									16151516.8		CH
									16151516.8		CZ
									13703784.2	2845434	DE
									16151516.8		DE
									16151516.8		DK



## ETSI Rules of Procedure, 29 November 2017

									18173320.5		EP
									16151516.8		ES
									16151516.8		FI
									13703784.2	2845434	FR
									16151516.8		FR
									13703784.2	2845434	GB
									16151516.8		GB
									16151516.8		GR
									16151516.8		HU
									16151516.8		IE
									16151516.8		IT
									2015-509336	2015-519821	JP
									2017-037447		JP
									2018-083214		JP
									16151516.8		NL
									16151516.8		NO
									16151516.8		PL
									16151516.8		PT
									16151516.8		RO
									16151516.8		SE
									16151516.8		TR
									14/394066		US
									15/630410		US
3GPP Release 11	TS36.213	10.1.2	V11.13.0	Sun Patent Trust	PCT/JP2013/002930	WO2013/168405	WIRELESS COMMUNICATIONS TERMINAL, BASE STATION DEVICE, AND RESOURCE ALLOCATION METHOD	PCT	17186428.3		BE
									17186428.3		CH
									201380001761.2	103621162	CN
									201810188823.X	108282268	CN
									17186428.3		CZ
									13787854.2		DE
									16188735.1		DE
									17186428.3		DE
									17186428.3		DK
									17186428.3	3261400	EP
									18182114.1		EP
									17186428.3		ES
									17186428.3		FI
									13787854.2		FR
									16188735.1		FR



## ETSI Rules of Procedure, 29 November 2017

									17186428.3		FR
									13787854.2		GB
									16188735.1		GB
									17186428.3		GB
									17186428.3		GR
									18102830.0		HK
									17186428.3		HU
									17186428.3		IE
									17186428.3		IT
									2013-538749	2013-968405	JP
									2017-141108		JP
									2018-119562		JP
									17186428.3		NL
									17186428.3		NO
									17186428.3		PL
									17186428.3		PT
									17186428.3		RO
									17186428.3		SE
									17186428.3		TR
									102116504	201351916	TW
									106137161	201807973	TW
									14/233373		US
									15/419734	2017/0141883	US
3GPP Release 11	TS36.2 13	9.1.4	V.11.1 3.0	Sun Patent Trust	PCT/JP2013/00 2799	WO2013/168 389	COMMUNICATION APPARATUS AND METHOD OF DETECTING DOWNLINK CONTROL INFORMATION	PCT	13787942.5		AL
									13787942.5		AT
									13787942.5		BE
									13787942.5		BG
									112013031729 -9		BR
									13787942.5		CH
									201380001513. 8	103563469	CN
									201810101353. 9	108111292	CN
									201810101502. 1	108173636	CN
									13787942.5		CY
									13787942.5		CZ
									13787942.5		DE
									13787942.5		DK



## ETSI Rules of Procedure, 29 November 2017

								13787942.5		EE
								18167744.4	3367605	EP
								13787942.5		ES
								13787942.5		FI
								13787942.5		FR
								13787942.5		GB
								13787942.5		GR
								13787942.5		HR
								13787942.5		HU
								W0020130575		ID
								5		
								13787942.5		IE
								2344/MUMNP/		IN
								2013		
								13787942.5		IS
								13787942.5		IT
								2013-549659	2013-968389	JP
								2017-126187		JP
								10-2013-	2015-0016062	KR
								7031022		
								13787942.5		LT
								13787942.5		LU
								13787942.5		LV
								13787942.5		MC
								13787942.5		MK
								13787942.5		MT
								2013/015090		MX
								13787942.5		NL
								13787942.5		NO
								13787942.5		PL
								13787942.5		PT
								13787942.5		RO
								13787942.5		RS
								2013154543	2013154543	RU
								13787942.5		SE
								13787942.5		SI
								13787942.5		SK
								13787942.5		SM
								1301006842	141535	TH
								13787942.5		TR





## ETSI Rules of Procedure, 29 November 2017

									14/125553		US
									15/222814	20160337095	US
									15/478059	2017/0207887	US
									15/895857		US
									1-2013-03876		VN
3GPP Release 11	TS36.2 13	10.1.3. 2.1	V.11.1 3.0	Sun Patent Trust	PCT/JP2013/00 1774	WO2013/168 341	TERMINAL APPARATUS AND COMMUNICATION METHOD	PCT	201380001971. 1	103733709	CN
									201810750239. 9		CN
									223/MUMNP/2 014		IN
									2013-542302	2013-968341	JP
									2016-214480		JP
									2017-236165		JP
									102110469	201347585	TW
									105143671	201714473	TW
									14/237551		US
									15/207310	20160323083	US
3GPP Release 12	TS36.2 13	10.2	V12.12 .0	Sun Patent Trust	PCT/JP2013/00 3644		Integrated controlling HARQ	PCT	15/487068	2017/0222778	US
									15/887880		US
									201380031401. 7	104365139	CN
									201711399966. 7	107979451	CN
									13820524.0	2876928	EP
									18109565.6		HK
									14/MUMNP/20 15		IN
									2014-525697		JP
									2017-134946		JP
									14/413216		US
3GPP Release 11	TS36.2 13	10.2	V.11.1 3.0	Sun Patent Trust	PCT/JP2013/00 3643		BASE STATION, AND BUFFER PARTITIONING METHOD	PCT	15/390039	20170111146	US
									15/674398	20170338917	US
									15/961660		US
									2013291459		AU
									2017201974		AU
									2018206700		AU
									112014003029 -4	Journal No. 2410	BR



## ETSI Rules of Procedure, 29 November 2017

									201380002042.2	103765970	CN
									201810222345.X	108173629	CN
									13819508.6	2876957	EP
									235/MUMNP/2014		IN
									2013-548503		JP
									2017-201263		JP
									10-2014-7003358	2015-0033592	KR
									2014104509	2014104509	RU
									2017136061		RU
									2014008676		SG
									10201702677Y		SG
									10201708734T		SG
									15/090411		US
									14/237819		US
									15/332980	20170041914	US
									15/666420	20170332367	US
									1-2014-00172		VN
3GPP Release 11	TS36.211	6.8A.1	V.11.7.0	Sun Patent Trust	PCT/JP2013/003904		BASE STATION APPARATUS, TERMINAL APPARATUS, TRANSMISSION METHOD, AND RECEPTION METHOD	PCT	112014001354-3		BR
									201380002089.9	103733710	CN
									201810053619.7	108093484	CN
									13817840.5	2879452	EP
									P00201400415		ID
									141/MUMNP/2014		IN
									2013-548502		JP
									2017-077017		JP
									10-2014-7002977	2015-0037720	KR
									2014/000701		MX
									2014102219	2014102219	RU
									1301007477	141547	TH
									102123525	201408117	TW
									14/234089	2014-0254519	US



## ETSI Rules of Procedure, 29 November 2017

									14/941402		US
									15/220231	20160337093	US
									15/804894	20180062798	US
									1-2014-00033		VN
3GPP Release 11	TS36.2 13	10.1.3. 1	V11.13 .0	Sun Patent Trust	PCT/JP2013/00 4403		TERMINAL DEVICE, BASE STATION DEVICE, AND UPLINK RESPONSE SIGNAL TRANSMISSION METHOD	PCT	201380037583. 9	104471976	CN
									201810281857. 3	108200654	CN
									13825495.8	2882222	EP
									2014-527969		JP
									2018-002546		JP
									102126277	201414232	TW
									14/414077		US
									15/684779	20170353952	US
3GPP Release 12	TS36.2 13	5.1.3.1	V12.12 .0	Sun Patent Trust	PCT/JP2013/00 3647		WIRELESS COMMUNICATION BASE STATION DEVICE, WIRELESS COMMUNICATION METHOD AND INTEGRATED CIRCUIT FOR CONTROLLING TRANSMISSION POWER OF SOUNDING REFERENCE SIGNAL (SRS)	PCT	13825002.2		AL
									13825002.2		AT
									13825002.2		BE
									13825002.2		BG
									13825002.2		CH
									201380002810. 4	103765941	CN
									201810156563. 8		CN
									13825002.2		CY
									13825002.2		CZ
									13825002.2		DE
									13825002.2		DK
									13825002.2		EE
									18159373.2	3346749	EP
									13825002.2		ES
									13825002.2		FI
									13825002.2		FR
									13825002.2		GB
									13825002.2		GR
									13825002.2		HR
									13825002.2		HU
									13825002.2		IE
									13825002.2		IS
									13825002.2		IT
									2014-509955		JP



## ETSI Rules of Procedure, 29 November 2017

									2017-182482		JP
									2018-107812		JP
									13825002.2		LT
									13825002.2		LU
									13825002.2		LV
									13825002.2		MC
									13825002.2		MK
									13825002.2		MT
									13825002.2		NL
									13825002.2		NO
									13825002.2		PL
									13825002.2		PT
									13825002.2		RO
									13825002.2		RS
									13825002.2		SE
									13825002.2		SI
									13825002.2		SK
									13825002.2		SM
									13825002.2		TR
									14/342239		US
									15/206071	20160323828	US
									15/590899	2017/0245219	US
									15/900591		US
3GPP Release 11	TS36.213	10.1.3	V11.13.0	Sun Patent Trust	PCT/JP2013/004160		Wireless communication terminal, base station device, and resource allocation method	PCT	201380047037.3	104620654	CN
									201810890038.9		CN
									13841685.4		DE
									16192758.7		EP
									13841685.4		FR
									13841685.4		GB
									502/MUMNP/2015		IN
									2014-538096		JP
									2017-221963		JP
									14/427431		US
									15/617955	2017/0280426	US
									15/963008		US
3GPP Release 11	TS36.213	13.1	V12.12.0	Sun Patent	PCT/CN2013/070620	WO2014/110764	DYNAMIC TDD UPLINK/DOWNLINK	PCT	112015016811-6		BR





## ETSI Rules of Procedure, 29 November 2017

se 12				Trust			CONFIGURATION USING DCI		2898097	104937991	CA
									201380070691.6		CN
									15-162406		CO
									13871584.2		DE
									17191740.4		EP
									13871584.2		ES
									13871584.2		FR
									13871584.2		GB
									18105146.2		HK
									P00201504235		ID
									4175/CHENP/2015		IN
									13871584.2		IT
									2015-552963		JP
									2016-243572		JP
									2018-019661		JP
									10-2015-7019042		KR
									2015/009226		MX
									PI2015001649		MY
									13871584.2		PL
									2015128808		RU
									2017138062		RU
									13871584.2		TR
									14/760992		US
									15/633665		US
3GPP Relea se 11	TS36.3 21	5.7	V11.6. 0	Sun Patent Trust	PCT/EP2013/07 5499	WO2014/146 736	Controlling UE behavior for CSI/SRS reporting during DRX	PCT	17153572.7	105165085	BE
									112015023339-2		BR
									2904392		CA
									17153572.7		CH
									201380074872.6		CN
									17153572.7		CZ
									13801555.7		DE
									17153572.7		DE
									17153572.7		DK
									18180846.0		EP
									13801555.7		ES



## ETSI Rules of Procedure, 29 November 2017

										17153572.7		ES
										17153572.7		FI
										13801555.7		FR
										17153572.7		FR
										13801555.7		GB
										17153572.7		GB
										17153572.7		GR
										17153572.7		HU
										13801555.7		IE
										17153572.7		IE
										5599/CHENP/2015		IN
										13801555.7		IT
										17153572.7		IT
										2016-503557		JP
										10-2015-7025583		KR
										PI2015002137		MY
										13801555.7		NL
										17153572.7		NL
										17153572.7		NO
										17153572.7		PL
										17153572.7		PT
										17153572.7		RO
										2015139699		RU
										2017139245		RU
										13801555.7		SE
										17153572.7		SE
										13801555.7		TR
										17153572.7		TR
										103104586	201438429	TW
										14/777721		US
										15/594424		US
										15/798127		US
										15/957821		US
										1-2015-03453		VN
										2015/06898		ZA
3GPP Relea	TS36.2 13	14.1.1. 5	V12.12 .0	Sun Patent	PCT/CN2014/07 1584	3GPP Release 12	WIRELESS AND	DEVICE POWER	PCT	BR1120160146 19-0		BR



## ETSI Rules of Procedure, 29 November 2017

se 12				Trust			CONTROL METHOD		201480072098. X	105874854	CN
									14880241.6		EP
									201627022538		IN
									2016-535723		JP
									10-2016- 7017285		KR
									MX/a/2016/008 635		MX
									2016126214		RU
									2017144025		RU
									1601003838	166230	TH
									15/109413	20160330696	US
									15/634826	2017/0295549	US
									15/912435		US
									1-2016-02248		VN

\* Information on other members of a PATENT FAMILY is provided voluntarily (Clause 4.3 of the ETSI IPR Policy).

Please return this form together with the "IPR Information Statement and Licensing Declaration form" to:  
ETSI Director-General - ETSI - 650, route des Lucioles - F-06921 Sophia Antipolis Cedex – France / Fax. +33 (0) 4 93 65 47 16



ETSI Rules of Procedure, 3 April 2019  
Annex 6 - Appendix A: IPR Licensing Declaration forms

**IPR HOLDER / ORGANISATION ("Declarant")**

Legal Name: Sun Patent Trust

**CONTACT DETAILS FOR LICENSING INFORMATION:**

Name and Title: Joseph Casino, Managing Trustee

Department: N/A

Address: c/o Wiggin and Dana, 437 Madison Avenue, NY, NY 10022

Telephone: 212-551-2842

Fax: 212-551-2888

Email: jcasino@wiggin.com

URL: www.sun-ip.com

**GENERAL IPR LICENSING DECLARATION**

In accordance with Clause 6.1 of the ETSI IPR Policy the Declarant and/or its AFFILIATES hereby informs ETSI that (*check one box only*):

- ☐ with reference to ETSI STANDARD(S) or TECHNICAL SPECIFICATION(S) No.: \_\_\_\_\_, or
- ☒ with reference to ETSI Project(s): LTE Advanced, or
- ☐ with reference to all ETSI STANDARDS AND TECHNICAL SPECIFICATIONS

and with reference to (*check one box only*):

- ☐ IPR(s) contained within technical contributions made by the Declarant and/or its AFFILIATES, or
- ☒ any IPRs

the Declarant hereby irrevocably declares that (1) it and its AFFILIATES are prepared to grant irrevocable licenses under its/their IPR(s) on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy, in respect of the STANDARD(S), TECHNICAL SPECIFICATION(S), or the ETSI Project(s), as identified above, to the extent that the IPR(s) are or become, and remain ESSENTIAL to practice that/those STANDARD(S) or TECHNICAL SPECIFICATION(S) or, as applicable, any STANDARD or TECHNICAL SPECIFICATION resulting from proposals or Work Items within the current scope of the above identified ETSI Project(s), for the field of use of practice of such STANDARD or TECHNICAL SPECIFICATION; and (2) it will comply with Clause 6.1bis of the ETSI IPR Policy with respect to such ESSENTIAL IPR(s).

- ☐ This irrevocable undertaking is made subject to the condition that those who seek licences agree to reciprocate (*check box if applicable*).

The construction, validity and performance of this General IPR licensing declaration shall be governed by the laws of France.

Terms in ALL CAPS on this form have the meaning provided in Clause 15 of the ETSI IPR Policy.

**SIGNATURE**

By signing this General IPR Licensing Declaration form, you represent that you have the authority to bind the Declarant and/or its AFFILIATES to the representations and commitments provided in this form.

Name of authorized person: Joseph Casino

Title of authorized person: Managing Trust

Place, Date: New York, NY Septe

Signature: /s Joseph Casino

Please return this form duly signed to: ETSI Director-General  
ETSI - 650, route des Lucioles - F-06921 Sophia Antipolis Cedex - France / Fax. +33 (0) 4 93 65 47 16



09/24/2019 05:10:11 PM from: wiggin and dana llp to: +33493654716 (over page 15)



RECU 24 SEP. 2019  
ETSI Rules of Procedure, 3 April 2019

## IPR INFORMATION STATEMENT AND LICENSING DECLARATION

### IPR HOLDER / ORGANISATION ("Declarant")

Legal Name: SUN PATENT TRUST

### CONTACT DETAILS FOR LICENSING INFORMATION:

Name and Title: Joseph Casino, Managing Director

Department: N/A

Address: c/o Wiggings and Dana, 437 Madison Avenue, NY, NY 10022

Telephone: 212-551-2842

Fax: 212-551-2888

Email: jcasino@wiggin.com

URL: www.sun-ip.com

### IPR INFORMATION STATEMENT

In accordance with Clause 4.1 of the ETSI IPR Policy the Declarant and/or its AFFILIATES hereby informs ETSI that it is the Declarant's and/or its AFFILIATES' present belief that the IPR(s) disclosed in the attached *IPR Information Statement Annex* may be or may become ESSENTIAL in relation to at least the ETSI Work Item(s), STANDARD(S) and/or TECHNICAL SPECIFICATION(S) identified in the attached *IPR Information Statement Annex*.

The Declarant and/or its AFFILIATES (*check one box only*):

- ☒ are the proprietor of the IPR(s) disclosed in the attached *IPR Information Statement Annex*.  
☐ are not the proprietor of the IPR(s) disclosed in the attached *IPR Information Statement Annex*.

### IPR LICENSING DECLARATION

In accordance with Clause 6.1 of the ETSI IPR Policy the Declarant and/or its AFFILIATES hereby irrevocably declares the following (*check one box only, and subordinate box, where applicable*):

- ☒ To the extent that the IPR(s) disclosed in the attached *IPR Information Statement Annex* are or become, and remain ESSENTIAL in respect of the ETSI Work Item, STANDARD and/or TECHNICAL SPECIFICATION identified in the attached *IPR Information Statement Annex*, the Declarant and/or its AFFILIATES are (1) prepared to grant irrevocable licences under this/these IPR(s) on terms and conditions which are in accordance with Clause 6.1 of the ETSI IPR Policy; and (2) will comply with Clause 6.1bis of the ETSI IPR Policy.
- ☐ This irrevocable undertaking is made subject to the condition that those who seek licences agree to reciprocate (*check box if applicable*).
- ☐ The Declarant and/or its AFFILIATES are not prepared to make the above IPR Licensing Declaration (reasons may be explained in writing in the attached *IPR Licensing Declaration Annex*).

The construction, validity and performance of this IPR information statement and licensing declaration shall be governed by the laws of France.

Terms in ALL CAPS on this form have the meaning provided in Clause 15 of the ETSI IPR Policy.

### SIGNATURE

By signing this IPR Information Statement and Licensing Declaration form, you represent that you have the authority to bind the Declarant and/or its AFFILIATES to the representations and commitments provided in this form.

Name of authorized person: Joseph Casino

Title of authorized person: Managing Trustee

Place, Date: New York, NY on September 23, 2019

Signature: /s Joseph Casino

Please return this form duly signed to: ETSI Director-General  
 ETSI - 650, route des Lucioles - F-06921 Sophia Antipolis Cedex - France / Fax. +33 (0) 4 93 65 47 16



ETSI Rules of Procedure, 3 April 2019

## IPR Information Statement Annex

STANDARD, TECHNICAL SPECIFICATION or ETSI Work Item				Proprietor	Application No.	Publication No.	Patent/Application Title	Country of registration	FURTHER INFORMATION Other members of this PATENT FAMILY, if any *		
Project or Standard name	Work Item or Standard No.	Illustrative specific part of the standard (e.g. Section)	Version (V.X.X.X)						Application No.	Publication No.	Country of registration
e.g. UMTS	ETSI TS 125 215	6.1.1.2	V.3.5.0	Abod		EP 1131972	Scheduling of slotted-mode related measurements	EPC CONTRACTING STATES		AU 12740/00 CN 99813100.8 FI 108270 JP 11-318161 US 6532226	Australia China P.R. Finland Japan USA
3GPP Release 10	TS24.303	5.1.2.4	V10.8.0	Sun Patent Trust	PCT/JP2006/314010	WO2007007858A1	The mobile node and communication control method	PCT	200680024856.6	101218802	CN
									201110228333.6	102395190	CN
									06781085.3	1902566	DE
									10012226.6	2291039	DE
									09171383.4	2141889	DE
									06781085.3	1902566	EP
									09171383.4	2141889	EP
									10012226.6	2291039	EP
									10012226.6	2387605	ES
									06781085.3	1902566	FR
									10012226.6	2291039	FR
									06781085.3	1902566	GB
									10012226.6	2291039	GB
									10012226.6	2291039	IE
									10012226.6	2291039	IT
									2007-558380	4856654	JP
									2011-161014	4898969	JP
									2011-244499	5258947	JP
									2013-012053	5451912	JP
									10012226.6	2291039	NL
									10012226.6	2291039	SE
									10012226.6	2291039	TR
									11/994841	8036189	US
									13/226258	8619737	US
									14/088227	9143928	US





## ETSI Rules of Procedure, 3 April 2019

3GPP Release 10	TS36.321	6.1.3.8	V10.10.0	Sun Patent Trust	PCT/JP2007/056950	WO200719591A1	Radio communication base station device and radio communication mobile station device	PCT	2008-510889	4912394	JP
									12/295260	8571001	US
									13/951371	9894682	US
									15/850479	10306668	US
									16/375269	20190230700 A1	US
3GPP Release 11	TS36.213	9.1.4	V11.13.0	Sun Patent Trust	PCT/JP2008/050137	WO2008084810A1	Radio communication base station device and control signal mapping method	PCT	08703008.6	2104370A1	EP
									1278/MUMN P/2009	277663	IN
									2008-553104	5159639	JP
									12/522368	8934418	US
									14/551802	9660785	US
									15/491667	10038519	US
									16/006123	20180294915 A1	US
3GPP Release 10	TS36.213	7.2.4	V10.13.0	Sun Patent Trust	PCT/JP2008/001643	WO2009004768A1	Radio communication device, radio communication system, radio communication method	PCT	16/442852		US
									2008800235 18.X	101689901	CN
									2012101760 60.X	102664663	CN
									08776728.1	2175573	DE
									08776728.1	2175573	EP
									2009-521509	5037615	JP
									2012-137883	5377714	JP
									12/664953	8379750	US
									13/735346	8654820	US
3GPP Release 10	TS36.213	7.1.6.5	V10.13.0	Sun Patent Trust	PCT/JP2008/003931	WO2009081580A1	Wireless communication base station device, wireless communication mobile station device, and propagation path estimation method	PCT	14/103134	8964873	US
									08863562.8	2237458	DE
									08863562.8	2237458	EP
									08863562.8	2237458	FR
									08863562.8	2237458	GB
									2009-546960	6226011	JP
									2013-004407	5740415	JP
									12/810126	9237049	US



## ETSI Rules of Procedure, 3 April 2019

3GPP Release 10	TS36.21 2	5.2.2	V10.9.0	Sun Patent Trust	PCT/JP20 09/00355 9	WO20100 13451A1	MIMO transmission device and MIMO transmission method	PCT	PI0916252-6	PI0916252A2	BR
									2009801301 54.X	102113257	CN
									09802700.6	2309667	DE
									09802700.6	2309667	EP
									W002011003 61	000048314	ID
									P002017069 78	2018/01465A	ID
									2434/MUMN P/2010		IN
									2010-522618	5355571	JP
									10-2011- 7002142	10-1531740	KR
									10-2012- 7019118	10-1570564	KR
									MX/a/11/000 678	294000	MX
									MX/A/2012/0 0021	307408	MX
									MX/A/2013/0 0945	313424	MX
									2011103196	2515283	RU
									13/002262	8493918	US
									13/926892	8730876	US
									14/243630	8917672	US
									1-2010- 03082	13647	VN
3GPP Release 10	TS36.33 1	5.3.10.3b	V10.22. 0	Sun Patent Trust	PCT/JP20 09/00368 1	WO20100 16221A1	Base station, terminal, band allocation method, and downlink data communication method	PCT	PI0916871-0	PI0916871A2	BR
									2727066	2727066A1	CA
									2009801304 60.3	102119541	CN
									2014101715 75.X	103944705	CN
									09804708.7	2312874	DE
									09804708.7	2312874	EP
									09804708.7	2312874	FR
									09804708.7	2312874	GB





## ETSI Rules of Procedure, 3 April 2019

									2783/MUMN P/2010	293972	IN
									1887/MUMN P/2012		IN
									2010-523744	5570024	JP
									2014-126136	5873134	JP
									10-2011- 7002419	10-1588917	KR
									10-2012- 7023820	10-1622439	KR
									PI201000615 1	163839	MY
									2011103904	2515288	RU
									13/058615	8971260	US
									14/550848	9049705	US
									14/697477	9380547	US
									15/166089	9642104	US
									1-2010- 03314	13659	VN
									2011/00860	2011/00860	ZA
									3GPP Release 10	TS36.33 1	6.2.2
	PI0916998-9		BR								
	2009801303 50.7	102113397	CN								
	2013104247 42.2	103501216	CN								
	09804709.5	EP2312895A1	EP								
	2629/MUMN P/2010		IN								
	1885/MUMN P/2012		IN								
	2010-523745	5570025	JP								
	2014-126139	5711841	JP								
	10-2011- 7002125	10-1643430	KR								
	10-2012- 7021072	10-1581494	KR								
	2011103916	2514855	RU								
	201100811-7	168784	SG								
	201205953-1	183716	SG								
	13/058617	8923221	US								



## ETSI Rules of Procedure, 3 April 2019

									14/650790	9237575	US
									14/961666	9425938	US
									15/214311	9641291	US
									1-2010-03259	14069	VN
3GPP Release 10	TS36.211	6.8.1	V10.7.0	Sun Patent Trust	PCT/JP2009/004930	WO2010035497A1	CCE+ number allocation method and base station device	PCT	09815916.3	2334133	DE
									161176088.9	3094145	DE
									09815916.3	2334133	EP
									161176088.9	3094145	EP
									09815916.3	2334133	FR
									161176088.9	3094145	FR
									09815916.3	2334133	GB
									161176088.9	3094145	GB
									488/MUMNP/2011		IN
									2011-530743	5419882	JP
									2011-234120	5683676	JP
									13/121163	8717989	US
3GPP Release 10	TS36.212	5.3.3	V10.9.0	Sun Patent Trust	PCT/JP2009/005788	WO2010050232A1	Radio terminal device, radio base station device, and channel signal forming method	PCT	14/198230	9414261	US
									15/171656	9775070	US
									200980143103.0	102204323	CN
									201310315120.6	103402228	CN
									201310503033.3	103491574	CN
									13110191.2	2667657	DE
									09813345.5	2352330	DE
									16213213.0	3157285	DE
									09813345.5	2352330	EP
									13110191.2	2667657	EP
									16213213.0	3157285	EP
									13110191.2	2667657	FR
									09813345.5	2352330	FR
									16213213.0	3157285	FR
									13110191.2	2667657	GB
									09813345.5	2352330	GB
									16213213.0	3157285	GB
									2011-535684	5383697	JP
									13/125422	8743805	US



## ETSI Rules of Procedure, 3 April 2019

									14/012858	8817819	US
									14/334499	9240873	US
									14/986278	9999036	US
									15/975409	20180263023 A1	US
3GPP Release 10	TS36.21 2	5.3.3.1.3	V10.9.0	Sun Patent Trust	PCT/JP20 09/00648 2	WO20100 64398A1	Radio terminal, radio base station, channel signal forming method and channel signal receiving method	PCT	PI0922835-7		BR
									2742668	2742668	CA
									2009801480 86.X	102232318	CN
									2014102577 03.2	104244418	CN
									09830168.2	2355605	DE
									09830168.2	2355605	EP
									18183610.7		EP
									09830168.2	2355605	FR
									09830168.2	2355605	GB
									1067/MUMN P/2011	307264	IN
									2018280373 30		IN
									2010-541218	5414895	JP
									2013-230095	5595576	JP
									2014-158568	5756878	JP
									10-2011- 7012408	10-1571921	KR
									10-2012- 7007538	10-1618398	KR
									PI201100231 0	166098	MY
									PI201500142 5		MY
									2011122108	2537375	RU
									15/094189	9923691	US
									13/130273	8620338	US
									14/040175	9432165	US
									15/890141	20180160444 A1	US
									1-2011- 01297	14535	VN
									1-2015- 02929	20074	VN





## ETSI Rules of Procedure, 3 April 2019

3GPP Release 10	TS36.21 3	7.2	V10.13. 0	Sun Patent Trust	PCT/JP20 10/00004 8	WO20100 79748A1	Wireless communication apparatus, wireless communication system and wireless communication method	PCT	2011/04006	2011/04006	ZA
									10729168.4	2375604	BE
									10729168.4	2375604	CH
									2010800040 76.1	102273115	CN
									10729168.4	2375604	CZ
									10729168.4	2375604	DE
									10729168.4	2375604	DK
									10729168.4	2375604	EP
									13178557.8	2660991A	EP
									10729168.4	2375604	ES
										2691037T3	
									10729168.4	2375604	FI
									10729168.4	2375604	FR
									10729168.4	2375604	GB
									10729168.4	2375604	GR
									10729168.4	2375604	HU
										E040750T2	
									10729168.4	2375604	IE
									10729168.4	2375604	IT
									2010-545746	5372983	JP
									2013-149490	5451932	JP
									2013-259344	5697116	JP
									2015-017541	5877254	JP
									10729168.4	2375604	NL
									10729168.4	2375604	NO
									10729168.4	2375604	PL
									10729168.4	2375604	PT
									10729168.4	2375604	RO
									10729168.4	2375604	SE
									10729168.4	2375604	TR
									13/141743	8737509	US
									14/251955	8923428	US
									14/252000	8953704	US
									14/575298	9136926	US
3GPP Release 10	TS36.21 6	5.6.1	V10.3.1	Sun Patent Trust	PCT/JP20 10/00049 7	WO20100 87174A1	Base station apparatus and transmission method	PCT	2010209167	2010209167	AU
									PI1007510-0		BR
									2010800042 08.0	102273299	CN





## ETSI Rules of Procedure, 3 April 2019

									2014100430 07.1	103763296	CN
									10735646.1	2384072A	EP
									1548/MUMN P/2011		IN
									2010-548424	5404653	JP
									2013-223399	5634585	JP
									10-2011- 7017711	10-1735847	KR
									2011131870	2529556	RU
									201105472-3	173181	SG
									13/146608	20110280177 A1	US
									1-2011- 01719	14060	VN
3GPP Release 10	TS36.21 3	8.1.2	V10.13. 0	Sun Patent Trust	PCT/JP20 10/00049 6	WO20100 87173A1	Wireless transmitter and reference signal transmission method	PCT	2010209166	2010209166	AU
								PI1007424-4		BR	
								2010800057 00.X	102301625	CN	
								2014102131 79.9	103957092	CN	
								10735645.3	2383917	DE	
								16186731.2	3133754	DE	
								10735645.3	2383917	EP	
								16186731.2	3133754	EP	
								18214637.3		EP	
								10735645.3	2383917	FR	
								16186731.2	3133754	FR	
								10735645.3	2383917	GB	
								16186731.2	3133754	GB	
								1547/MUMN P/2011		IN	
								2017280350 83		IN	
								2010-548423	5295270	JP	
								2013-115122	5501510	JP	
								10-2011- 7017726	10-1676468	KR	
								10-2012- 7012067	10-1676462	KR	
								2011131776	2526839	RU	



## ETSI Rules of Procedure, 3 April 2019

									201105475-6	173184	SG
									13/146611	10263744	US
									16/267611	20190199494 A1	US
									1-2011- 01683		VN
3GPP Release 10	TS36.21 3	10.1.2.2.1	V10.13. 0	Sun Patent Trust	PCT/JP20 10/00184 8	WO20101 06786A1	Wireless communication terminal device, wireless communication base station device, and resource region setting method	PCT	PI1009318-4	PI1009318A2	BR
									2755352	2755352	CA
									2,986,410	2,986,410	CA
									2010800121 49.1	102356682	CN
									2014105752 89.X	104253683	CN
									10753283.0	2410804	DE
									10753283.0	2410804	EP
									18183412.8		EP
									10753283.0	2410804	FR
									10753283.0	2410804	GB
									1913/MUMN P/2011		IN
									2018280456 14		IN
									2011-504748	5436538	JP
									2013-250126	5595579	JP
									2014-158575	5767739	JP
									10-2011- 7021627	10-1654394	KR
									PI201100440 1	MY-156031-A	MY
									2011137993	2502230	RU
									13/256618	20120002631 A1	US
									1-2011- 02339		VN
									2011/06721	2011/06721	ZA
3GPP Release 10	TS36.21 3	10.1.2	V10.13. 0	Sun Patent Trust	PCT/JP20 10/00360 6	WO20101 37341A1	Wireless communication apparatus and	PCT	PI1012919-7		BR
									2761636	2761636	CA
									2010800237 22.9	102449921	CN



## ETSI Rules of Procedure, 3 April 2019

							frequency hopping method		2014101854 38.1	103957030	CN
									10780301.7	2437401A1	EP
									2354/MUMN P/2011		IN
									2011-515909	5538378	JP
									2014-091424	5801438	JP
									10-2011- 7027066	10-1653022	KR
									PI201100544 9	156614	MY
									2011148358	2531386	RU
									13/320318	8705339	US
									14/195628	8908495	US
									14/531897	9241329	US
									1-2011- 03035	15321	VN
									2011/08680	2011/08680	ZA
3GPP Release 10	TS36.33 1	5.5.3.1	V10.22. 0	Sun Patent Trust	PCT/JP20 10/00350 1	WO20101 50462A1	Communication terminal	PCT	2010263963	2010263963	AU
									10791788.2	2448322	BE
									PI1013270-8	PI1013270A2	BR
									10791788.2	2448322	CH
									2010800279 56.0	102804845	CN
									10791788.2	2448322	CZ
									10791788.2	2448322	DE
									18176538.9		DE
									10791788.2	2448322	DK
									10791788.2	2448322	CZ
									10791788.2	2448322	EP
									18176538.9	EP3397006A1	EP
									10791788.2	2448322	ES
									10791788.2	2448322	FI
									10791788.2	2448322	FR
									10791788.2	2448322	GB
									10791788.2	2448322	GR
									10791788.2	2448322	HU
									10791788.2	2448322	IE



## ETSI Rules of Procedure, 3 April 2019

									9780/CHENP /2011		IN
									10791788.2	2448322	IT
									2011-519509	5591234	JP
									2014-154051	5796108	JP
									10-2012- 7001519	10-1701542	KR
									10791788.2	2448322	NL
									10791788.2	2448322	NO
									10791788.2	2448322	PL
									10791788.2	2448322	PT
									10791788.2	2448322	RO
									2012102019	2507713	RU
									10791788.2	2448322	SE
									201109202-0	176816A1	SG
									1020140347 4T	10201403474 TA	SG
									10791788.2	2448322	TR
									13/379471	9596631	US
									15/407969	10218472	US
									16/237142	20190140788 A1	US
									1-2011- 03508	18387	VN
3GPP Release 10	TS36.21 3	10.1.2.2.1	V10.13. 0	Sun Patent Trust	PCT/JP20 10/00497 0	WO20110 16253A1	Terminal device and retransmission control method	PCT	10806253.0	2464048	BE
									1120120028 22-7	11201200282 2A2	BR
									10806253.0	2464048	CH
									2010800309 64.0	102474390	CN
									2014103209 07.6	104092513	CN
									10806253.0	2464048	CZ
									10806253.0	2464048	DE
									18172372.7		DE
									10806253.0	2464048	DK
									10806253.0	2464048	EP
									18172372.7	3379756A1	EP
									10806253.0	2464048	ES





## ETSI Rules of Procedure, 3 April 2019

								18172372.7		ES
								10806253.0	2464048	FI
								18172372.7		FI
								10806253.0	2464048	FR
								18172372.7		FR
								10806253.0	2464048	GB
								18172372.7		GB
								10806253.0	2464048	GR
								10806253.0	2464048	HU
								W002012004 08	000045004	ID
								10806253.0	2464048	IE
								297/MUMNP/ 2012		IN
								10806253.0	2464048	IT
								18172372.7		IT
								2011-525804	5592374	JP
								2014-154903	5759049	JP
								10-2012- 7003166	10-1742337	KR
								2012/000965	306227	MX
								2012/014640	325125	MX
								2014/011817	333055	MX
								10806253.0	2464048	NL
								18172372.7		NL
								10806253.0	2464048	NO
								10806253.0	2464048	PL
								10806253.0	2464048	PT
								10806253.0	2464048	RO
								2012103997	2546067	RU
								10806253.0	2464048	SE
								1101003736		TH
								1901003629		TH
								10806253.0	2464048	TR
								18172372.7		TR
								13/389255	8867466	US
								14/488113	9236994	US
								14/959754	9526097	US
								15/348696	9826520	US



## ETSI Rules of Procedure, 3 April 2019

								1-2012-00233		VN
3GPP Release 10	TS23.40 1	5.3.4.3	V10.13.0	Sun Patent Trust	PCT/JP20 10/00594 0	WO20110 52136A1	Communications system apparatus status dependent mobile ser	3630/DELNP /2012		IN
								2012-519640	5514908	JP
								13/504641	9204415	US
3GPP Release 10	TS36.33 1	5.3.10.3	V10.22.0	Sun Patent Trust	PCT/JP20 11/00079 6	WO20110 99306A1	Transmissions device transmissic method	1120120204 89-0	11201202048 9A2	BR
								2011800092 91.5	102812747	CN
								2015108956 17.9	105356976	CN
								11742055.4	2538716	DE
								11742055.4	2538716	EP
								19169239.1		EP
								11742055.4	2538716	FR
								11742055.4	2538716	GB
								W002012032 00	IDP00006277 7	ID
								1922/MUMN P/2012		IN
								2011-553768	5356545	JP
								2013-175505	5501512	JP
								2014-046140	5685658	JP
								2015-006766	5823068	JP
								10-2012-7021172	10-1778324	KR
								10-2017-7025048	10-1814359	KR
								2012/009372	311723	MX
								2013/008479	318518	MX
								2012134640	2540280	RU
								1201004063		TH
								13/578505	8855075	US
								14/477501	9516641	US
								15/338204	9642142	US
								15/473482	10034290	US
								16/017881	20180310313 A1	US



## ETSI Rules of Procedure, 3 April 2019

									1-2012-02313	18789	VN
3GPP Release 10	TS36.211	6.10.5	V10.7.0	Sun Patent Trust	PCT/JP2011/002802	WO2011158436A1	Wireless communication device and wireless communication method	PCT	201180029306.4	102939787	CN
									2012-520261	5511955	JP
									2014-058417	5756541	JP
									13/704010	8942176	US
									14/588712	9143969	US
									14/811464	9490922	US
									15/214564	9769754	US
									15/665892	10028219	US
									16/008184	10313973	US
									16/388072		US
3GPP Release 10	TS24.327	5.7.2.3	V10.2.0	Sun Patent Trust	PCT/EP2006/007611	WO2007039007A1	Multiple interface mobile node with simultaneous home- and foreign network connection	PCT	200680034166.9	101268688	CN
									201310026359.1	103152787	CN
									06762934.5	1927228	DE
									10010390.2	2271159	DE
									06762934.5	1927228	EP
									10010390.2	2271159	EP
									06762934.5	1927228	ES
									10010390.2	2271159	ES
									06762934.5	1927228	FR
									10010390.2	2271159	FR
									06762934.5	1927228	GB
									10010390.2	2271159	GB
									06762934.5	1927228	IE
									10010390.2	2271159	IE
									06762934.5	1927228	IT
									10010390.2	2271159	IT
									2008-530347	4903798	JP
									06762934.5	1927228	NL
									10010390.2	2271159	NL
									06762934.5	1927228	SE
									10010390.2	2271159	SE
									06762934.5	1927228	TR
									10010390.2	2271159	TR
									12/067137	8170010	US
									13/438730	8553689	US





## ETSI Rules of Procedure, 3 April 2019

3GPP Release 10	TS22.25 9	4.2	V10.0.0	Sun Patent Trust	PCT/JP20 07/05208 6	WO20070 89023A1	Method for selective service updates for communication networks	PCT	07713892.3	1966940	DE
									07713892.3	1966940	EP
									07713892.3	1966940	FR
									07713892.3	1966940	GB
									2008-552037	5048684	JP
									12/159889	8601127	US
									PCT/JP2006/ 301945	WO20070888 37A1	PCT
3GPP Release 10	TS36.21 1	6.10	V10.7.0	Sun Patent Trust	PCT/CN2 010/0716 58	WO20101 24552A1	Wireless communication system and downlink receiving power detection method therefor	PCT	2010800129 44.0	102362528	CN
									2014101285 13.7	103841632	CN
									2012-506318	5417527	JP
									2013-238656	5592991	JP
									13/266292	9049674	US
									14/690721	9197307	US
3GPP Release 10	TS23.23 7	6a.4a.3	V10.13. 0	Sun Patent Trust	PCT/JP20 10/00083 9	WO20110 99068A1	System and method to keep continuity of media flows for a collaborative session without constant controller(s) involvement	PCT	2010800635 31.5	102763392	CN
									2015105908 49.8	105141622	CN
									10712174.1	2534807	DE
									10712174.1	2534807	EP
									10712174.1	2534807	FR
									10712174.1	2534807	GB
									2012-533400	5619169	JP
									13/577732	9237174	US
3GPP Release 10	TS36.32 1	6.1.3.8	V10.10. 0	Sun Patent Trust	PCT/EP2 011/0004 73	WO20110 98227A1	Component carrier activation and deactivation using resource assignments	PCT	14185868.8	2819339	AL
									14185868.8	2819339	AT
									14185868.8	2819339	BE
									14185868.8	2819339	BG
									14185868.8	2819339	CH
									2011800186 91.2	105744814	CN
									14185868.8	2819339	CY
									14185868.8	2819339	CZ
									14185868.8	2819339	DE
									11702401.8	2534784	DE
									18175762.6		DE





## ETSI Rules of Procedure, 3 April 2019

14185868.8	2819339	DK
14185868.8	2819339	EE
11702401.8	2534784	EP
14185868.8	2819339	EP
18175762.6	3389214A1	EP
19174445.7		EP
14185868.8	2819339	ES
14185868.8	2819339	FI
14185868.8	2819339	FR
11702401.8	2534784	FR
18175762.6		FR
14185868.8	2819339	GB
11702401.8	2534784	GB
18175762.6		GB
14185868.8	2819339	GR
14185868.8	2819339	HR
14185868.8	2819339	HU
14185868.8	2819339	IE
14185868.8	2819339	IS
14185868.8	2819339	IT
2012-552296	5750120	JP
2015-100431	5948534	JP
14185868.8	2819339	LT
14185868.8	2819339	LU
14185868.8	2819339	LV
14185868.8	2819339	MC
14185868.8	2819339	MK
14185868.8	2819339	MT
14185868.8	2819339	NL
14185868.8	2819339	NO
14185868.8	2819339	PL
14185868.8	2819339	PT
14185868.8	2819339	RO
14185868.8	2819339	RS
14185868.8	2819339	SE
14185868.8	2819339	SI
14185868.8	2819339	SK
14185868.8	2819339	SM
14185868.8	2819339	TR
100104303	I507073	TW



## ETSI Rules of Procedure, 3 April 2019

									104127711	1569670	TW
									13/577861	8855132	US
									14/484266	9220107	US
									14/727719	9414387	US
									15/202444	9554386	US
									15/374195	9774437	US
									15/687088	9942022	US
									15/906725	10333685B2	US
									16/401998		US
3GPP Release 10	TS32.59 3	5.2.3	V10.2.0	Sun Patent Trust	PCT/JP20 10/00061 2	WO20101 00823A1	Base station apparatus and method of setting cell id	PCT	PI1012349-0	PI1012349A2	BR
								2010800054	102293022	CN	
								04.X			
								10748427.1	2405680	DE	
								10748427.1	2405680	EP	
								10748427.1	2405680	ES	
								10748427.1	2405680	FR	
								10748427.1	2405680	GB	
								W002011029	000047495	ID	
								89			
								1785/MUMN P/2011		IN	
								10748427.1	2405680	IT	
								2009-048473		JP	
								2011-502606	5453390	JP	
								10-2011- 7020150	10-1661915	KR	
								10-2016- 7023317	10-1692683	KR	
								2011/008606	314928	MX	
								10748427.1	2405680	NL	
								2011135360	2541182	RU	
10748427.1	2405680	TR									
13/203808	10356609	US									
3GPP Release 11	TS36.21 1	5.5.1	V11.7.0	Sun Patent Trust	PCT/JP20 08/00215 1	WO20090 19878A1	Radio transmission device and radio communication method	PCT	08790408.2	2178231	DE
								12188819.2	2549668	DE	
								08790408.2	2178231	EP	
								12188819.2	2549668	EP	
								2009-526341	5349308	JP	
								12/672256	8509344	US	



## ETSI Rules of Procedure, 3 April 2019

									13/887671	9265046	US
3GPP Release 10	TS36.21 3	9.1.1	V10.13. 0	Sun Patent Trust	PCT/JP20 08/00259 5	WO20090 37854A1	Radio resource management device, radio communication base station device, and radio resource management method	PCT	2009-533061	5137959	JP
									12/678725	8472389	US
3GPP Release 10	TS36.21 1	5.4.1	V10.7.0	Sun Patent Trust	PCT/JP20 08/00263 9	WO20090 41029A1	Radio communication device and response signal spreading method	PCT	PI0817330-3		BR
									2009-534174	5127836	JP
									12/679440	8422532	US
3GPP Release 11	TS24.30 2	4.8.2.1	V11.8.0	Sun Patent Trust	PCT/JP20 08/00259 2	WO20090 41006A1	Network node and mobile terminal	PCT	08833875.1	2194737	BE
									08833875.1	2194737	CH
									2008801094 26.3	101919300	CN
									2013104398 05.4	103458477	CN
									08833875.1	2194737	CZ
									08833875.1	2194737	DE
									18161877.8		DE
									08833875.1	2194737	DK
									08833875.1	2194737	EP
									18161877.8	3352526	EP
									19171940.0		EP
									08833875.1	2194737	ES
									08833875.1	2194737	FI
									08833875.1	2194737	FR
									08833875.1	2194737	GB
									08833875.1	2194737	GR
									08833875.1	2194737	HU
									08833875.1	2194737	IE
									08833875.1	2194737	IT
									2009-534166	5080583	JP
									2012-189477	5485345	JP
									2014-026418	5635712	JP





## ETSI Rules of Procedure, 3 April 2019

									08833875.1	2194737	NL
									08833875.1	2194737	NO
									08833875.1	2194737	PL
									08833875.1	2194737	PT
									08833875.1	2194737	RO
									08833875.1	2194737	SE
									08833875.1	2194737	TR
									12/878729	8731547	US
									14/242637	9178803	US
									14/869373	9642057	US
									15/471827	10028190	US
									16/013573	20180302833 A1	US
3GPP Release 11	TS23.40 1	5.3.4.1	V11.11.0	Sun Patent Trust	PCT/JP20 08/00237 0	WO20090 28209A1	Radio communication terminal, radio communication base station device, and radio communication method	PCT	2008801049 25.3	101796857	CN
									08790524.6	2187685	DE
									08790524.6	2187685	EP
									12/875378	8504072	US
									2008-055329	5116509	JP
3GPP Release 11	TS36.21 3	5.1.1.1	V11.13.0	Sun Patent Trust	PCT/JP20 11/00398 0	WO20120 20540A1	Wireless communication terminal apparatus and wireless communication method	PCT	2011800375 69.X	103053205	CN
									2016106202 06.3	106230570A	CN
									2012-528587	5886200	JP
									2016-022741	6037297	JP
									2016-205932	6410111	JP
									2018-169520	2019004512A	JP
									13/814787	9113472	US
									14/699374	9554387	US
									14/702069	9386588	US
									15/372563	10349415	US
									16/395454		US
3GPP Release 10	TS36.21 1	6.10	V10.7.0	Sun Patent Trust	PCT/JP20 12/00083 0	WO20121 1466A1	Relay station, base station and communication method	PCT	2012800019 67.0	102986265	CN
									12749557.0	2680632	DE
									12749557.0	2680632	EP
									2013-500861	6048892	JP





## ETSI Rules of Procedure, 3 April 2019

3GPP Release 11	TS36.211	6.3.4	V11.7.0	Sun Patent Trust	PCT/JP2013/000551	WO2013121727A1	Receiver device, transmitter device, reception method, and transmission method	PCT	13/819292	9065527	US
									201380007934.1	104094535	CN
									201710706332.5	107508621A	CN
									2014-500084	5995174	JP
									2016-155833	6210247	JP
									2017-163547	6439950	JP
									2018-208058		JP
									14/374177	9252861	US
									14/976932	9484996	US
									15/254844	10075945	US
3GPP Release 11	TS36.331	5.6.9.2	V11.19.0	Sun Patent Trust	PCT/EP2004/003431	WO2005096558A1	A method for performing a scheduling algorithm with a minimum resource parameter and method of calculating same	PCT	16/057428	20180352538A1	US
									16/429245		US
									PI0418642-7		BR
									10175589.0	2254290	DE
									04724603.8	1738535	DE
									04724603.8	1738535	EP
									10175589.0	2254290	EP
									2007-505387	4480603	JP
									10-2006-7022765	10-1150651	KR
									2006138215	2341029	RU
3GPP Release 11	TS23.107	8.4.2	V11.0.0	Sun Patent Trust	PCT/EP2005/006567	WO2005125095A1	Adaptive and scalable QoS architecture for multiple-bearer multicast/broadcast services	PCT	10/594556	8208446	US
									200580020646.5	1998184	CN
									04014494.1	1610492	DE
									04014494.1	1610492	EP
									04014494.1	1610492	FI
									04014494.1	1610492	FR
									04014494.1	1610492	GB
									2011-171719	5443449	JP
									04014494.1	1610492	SE
									11/630027	7957738	US
3GPP Release 11	TS23.402	9.5.1	V11.10.0	Sun Patent Trust	PCT/EP2009/000070	WO2009087099A1	Non-3GPP to 3GPP network handover optimizations	PCT	09700338.8	2235985	DE
									12186354.2	2541987	DE
									14163749.6	2755423	DE
									09700338.8	2235985	EP
									12186354.2	2541987	EP



## ETSI Rules of Procedure, 3 April 2019

									14163749.6	2755423	EP
									09700338.8	2235985	FR
									12186354.2	2541987	FR
									14163749.6	2755423	FR
									09700338.8	2235985	GB
									12186354.2	2541987	GB
									14163749.6	2755423	GB
									2010-541752	5524863	JP
									10-2010-7017688	10-1558014	KR
									12/812007	8457635	US
									13/888966	8781474	US
3GPP Release 11	TS23.40 2	4.5.2	V11.10.0	Sun Patent Trust	PCT/EP2 009/0010 33	WO20091 03480A1	Home agent discovery upon changing the mobility management scheme	PCT	2009801136 37.9	102007752	CN
									2013104112 30.2	103442347	CN
									09712404.4	2245820	DE
									13176654.5	2709390	DE
									09712404.4	2245820	EP
									13176654.5	2709390	EP
									13176654.5	2709390	FR
									13176654.5	2709390	GB
									2010-547091	4948652	JP
									2012-049056	5367109	JP
									13/962862	9288658	US
									14/987495	9439059	US
									15/227893	9635539	US
									15/457793	9930518	US
									15/894818	10111084	US
									18/134725	20190020995 A1	US
3GPP Release 11	TS36.21 3	9.1.4	V11.13.0	Sun Patent Trust	PCT/EP2 011/0047 83	WO20120 41467A1	Search space for non-interleaved relay physical downlink control channel R-PDCCH	PCT	14182686.7	2824865	AL
									14182686.7	2824865	AT
									14182686.7	2824865	BE
									14182686.7	2824865	BG
									14182686.7	2824865	CH
									2011800473 08.6	103180113	CN
									2017100223 20.0	106850171A	CN



## ETSI Rules of Procedure, 3 April 2019

								14182686.7	2824865	CY	
								14182686.7	2824865	CZ	
								14182686.7	2824865	DE	
								11761290.3	2622777	DE	
								17197496.7	3291475	DE	
								14182686.7	2824865	DK	
								14182686.7	2824865	EE	
								11761290.3	2622777	EP	
								14182686.7	2824865	EP	
								17197496.7	3291475	EP	
								14182686.7	2824865	ES	
								14182686.7	2824865	FI	
								14182686.7	2824865	FR	
								11761290.3	2622777	FR	
								17197496.7	3291475	FR	
								14182686.7	2824865	GB	
								11761290.3	2622777	GB	
								17197496.7	3291475	GB	
								14182686.7	2824865	GR	
								14182686.7	2824865	HR	
								14182686.7	2824865	HU	
								14182686.7	2824865	IE	
								14182686.7	2824865	IS	
								14182686.7	2824865	IT	
								2013-530611	5734440	JP	
								2015-082698	5865534	JP	
								14182686.7		LI	
								14182686.7	2824865	LT	
								14182686.7	2824865	LU	
								14182686.7	2824865	LV	
								14182686.7	2824865	MC	
								14182686.7	2824865	MK	
								14182686.7	2824865	MT	
								14182686.7	2824865	NL	
								14182686.7	2824865	NO	
								14182686.7	2824865	PL	
								14182686.7	2824865	PT	
								14182686.7	2824865	BR	
								14182686.7	2824865	RS	
								14182686.7	2824865	SE	





## ETSI Rules of Procedure, 3 April 2019

									14182686.7	2824865	SI
									14182686.7	2824865	SK
									14182686.7	2824865	SM
									14182686.7	2824865	TR
									13/822618	9173213	US
									14/866861	9935754	US
									15/902919	10270578	US
									16/287784		US
3GPP Release 11	TS36.21 3	7.2	V11.13. 0	Sun Patent Trust	PCT/CN2 011/0723 32	WO20121 29803A1	Method of feeding back MU-CQI in a communication system, transmission point device, and user equipment	PCT	2011363817	2011363817	AU
									1120130206 55-1	11201302065 5A2	BR
									2011800683 58.2	103563268	CN
									11862368.5		DE
									11862368.5	2692070A1	EP
									1350/MUMN P/2013		IN
									2014-501393	5942208	JP
									2016-087004	6376478	JP
									10-2013- 7021705	10-1723263	KR
									2013138567	2564532	RU
									201306278-1	192837	SG
									13/981589	9743304	US
									1-2013- 02470	19934	VN
3GPP Release 11	TS36.21 1	6.10.3.1	V11.7.0	Sun Patent Trust	PCT/CN2 011/0803 72	WO20130 10349A1	Method of scrambling signals, transmission point device and user equipment using the method	PCT	1120130307 26-9	11201303072 6A2	BR
									2834436	2834436	CA
									2011800718 67.0	103621030	CN
									2016111520 89.9	107104912A	CN
									11869555.0	2695346	EP
									11869555.0	2695346	EP
									19168406.7		EP
									17113641.7		HK
									2035/MUMN P/2013		IN
									2014-519376	5841249	JP





## ETSI Rules of Procedure, 3 April 2019

Page 26 (version 15)

3GPP Release 11	TS36.21 3	7.2	V11.13. 0	Sun Patent Trust	PCT/CN2 011/0803 73	WO20130 44482A1	Method for determining channel quality indicator, base station and user equipment therefor	PCT	2015-221431	6041278	JP
									10-2013- 7034442	20140037142 A	KR
									PI201370209 6	MY-167088-A	MY
									PI201600142 2		MY
									2013162734	2596819	RU
									14/116325	9306712	US
									15/053963	9820274	US
									15/709215	10028270	US
									16/010125	10292153	US
									16/365140	20190223171 A1	US
									1-2013- 03455		VN
									1-2019- 01573		VN
									2013/08907	2013/08907	ZA
									2011378051	2011378051	AU
									1120130307 46-3	11201303074 6A2	BR
									2011800711 84.5	103563432	CN
									2016110509 13.X	107104706A	CN
									11873496.1	2700261	DE
									11873496.1	2700261	EP
									2034/MUMN P/2013		IN
									2014-532208	5815137	JP
									2015-183753	8226244	JP
									10-2013- 7030883	10-1811092	KR
									2013162979	2576394	RU
									201308227-6	194816	SG
									14/114883	9872279	US
									15/832590	20180098319 A1	US
									1-2013- 03456		VN



## ETSI Rules of Procedure, 3 April 2019

3GPP Release 11	TS36.211	5.5.1	V11.7.0	Sun Patent Trust	PCT/JP2013/000182	WO201314798A1	Terminal device, base station device, and communication method	PCT	13744118.4		DE
									13744118.4	2811802A1	EP
									2013-535978	6065285	JP
									2016-237744	6281828	JP
									2018-002798	6554654	JP
									14/008642	9913260	US
3GPP Release 11	TS36.213	7.2	V11.13.0	Sun Patent Trust	PCT/CN2012/075340	WO2013166699A1	Method of CSI reporting, user equipment and eNode B	PCT	15/874201	20180146459A1	US
									201280031347.1	103636156	CN
									201710248118.X	107198691A	CN
									12876146.7		EP
									2015-510601	5950143	JP
									2016-102473	6414756	JP
3GPP Release 11	TS36.213	7.2.1	V11.13.0	Sun Patent Trust	PCT/JP2013/004198	WO2014020828A1	Wireless communication terminal device, wireless communication base device, and method for generating CSI	PCT	14/129259	10051489	US
									13824923.0	2882217	DE
									13824923.0	2882217	EP
									19155493.0	3503617A1	EP
									2014-527962	6300105	JP
									102125084	1696972	TW
3GPP Release 11	TS36.213	7.2.1	V11.13.0	Sun Patent Trust	PCT/CN2012/079477	WO2014019158A1	Wireless communication method of configuring measurement resource, and wireless communication device therefor	PCT	14/415125	9531518	US
									15/354128	9806866	US
									201280021257.4	103733671	CN
									201710417144.0	107181570A	CN
									12874929.8	2880891A1	EP
									2015-624586	5988182	JP
3GPP Release 11	TS36.213	7.2.1	V11.13.0	Sun Patent Trust	PCT/CN2012/079477	WO2014019158A1	Wireless communication method of configuring measurement resource, and wireless communication device therefor	PCT	2016-147340	6152619	JP
									2017-094902	6347376	JP
									2018-094345	6554648	JP
									14/112227	9877217	US
									15/841062	10182366	US
									16/210513	20190110221A1	US
	TS36.213	10.1.2.1	V11.13.0			WO2014020819A1	Wireless communication	PCT	201380002808.7	103959886	CN



## ETSI Rules of Procedure, 3 April 2019

3GPP Release 11				Sun Patent Trust	PCT/JP2013/003906		terminal, base station device, resource allocation method		201810198018.5	108462997A	CN
									13825710.0	2882250A1	EP
									2014-509956	6308394	JP
									2018-033187	6501095	JP
									2019-038650	2019083586 A	JP
									102123524	1632818	TW
									107122638	1662849	TW
									108114150	201931924 A	TW
									14/342283	9591519	US
									15/401817	10014987	US
									15/994774	10355831	US
									16/377713	20190238280 A1	US
3GPP Release 12	TS36.213	5.1.4.1	V12.13.0	Sun Patent Trust	PCT/JP2011/005906	WO2012060067A1	Wireless communication terminal device and power allocation method	PCT	2012-541727	5898087	JP
									2016-039931	8268553	JP
									2017-237896	8537587	JP
									2019-103694		JP
									13/883100	9661588	US
									15/492827	9894622	US
									15/860381	10051583	US
									16/019336	10313988	US
									16/384505	20190246362 A1	US
3GPP Release 12	TS36.213	7.2.3	V12.13.0	Sun Patent Trust	PCT/CN2012/080560	WO2014029108A1	Communication method, base station and user equipment	PCT	201280075042.0	104509012	CN
									201910226583.2	110061811A	CN
									12883201.1	2888827A1	EP
									2015-527752	6094982	JP
									14/416174	9648601	US
									15/474908	9967872	US
									15/947632	10182432	US
									16/208255	20190104506 A1	US
3GPP Release 12	TS36.213	9.1.2	V12.13.0	Sun Patent Trust	PCT/JP2013/005944	WO2014064892A1	Terminal apparatus, base station apparatus, reception	PCT	201380052762.X	104704877	CN
									201810592124.1	108449165A	CN
									13849040.4	2914032A1	EP





## ETSI Rules of Procedure, 3 April 2019

							method and transmission method		632/MUMNP/2015		IN
									2014-643133	6241621	JP
									2017-204640	6481908	JP
									2019-014357	2019083561A	JP
									14/430137	9826528	US
									15/395737	10257828	US
									16/280721	20190182832 A1	US
3GPP Release 12	TS36.213	7.1.7.1	V12.13.0	Sun Patent Trust	PCT/EP2014/056466	WO2014161820A1	MCS adaptation table for 256-QAM	PCT	112015024383-5	112015024383A2	BR
									201480024851.8	105164961	CN
									201910598082.7		CN
									14713510.7	2982067	DE
									14713510.7	2982067	EP
									19166975.3	3528410A1	EP
									14713510.7	2982067	FR
									14713510.7	2982067	GB
									P00201505593		ID
									5936/CHENP/2015		IN
									2016-505787	6380860	JP
									2018-135809	2018196131A	JP
									10-2015-7027159	20150140283A	KR
									MX/a/2015/013943		MX
									MX/a/2019/005726		MX
									NG/C/2015/1540	NG/C/2015/1540	NG
									2015141868	2647649	RU
									2018103904	2676875	RU
									2018144310		RU
									11201508177S		SG
									10201708148Y		SG





## ETSI Rules of Procedure, 3 April 2019

									14/781887	10277447	US
									16/353694	20190216221 A1	US
									1-2015-03652		VN
3GPP Release 12	TS36.212	5.3.3.1.4	V12.9.1	Sun Patent Trust	PCT/CN2 013/0803 52	WO20150 13871A1	Wireless communication method, base station, transmission/reception point, user equipment and wireless communication system	PCT	2013800785 31.6	105409308A	CN
									13890538.5	3028515	DE
									13890538.5	3028515	EP
									17174824.7	3232600A1	EP
									18104408.8		HK
									2016270030 14		IN
									2016-530293	6222534	JP
									2017-179176	6422006	JP
									2018-187486	2019033511 A	JP
									14/908077	20160183222 A1	US
3GPP Release 12	TS36.212	5.4.3.1.1	V12.9.1	Sun Patent Trust	PCT/CN2 013/0809 17	WO20150 17983A1	Wireless communication method for device to device communication and user equipment	PCT	2013800785 33.5	105409287A	CN
									13891045.0	3031242	DE
									13891045.0	3031242	EP
									19174915.9		EP
									2016270028 07		IN
									2016-532175	6284064	JP
									2018-006346	6489336	JP
									2019-021613	2019071689A	JP
									14/907797	9918299	US
									15/879001	20180152914 A1	US
3GPP Release 12	TS36.213	13.1	V12.13.0	Sun Patent Trust	PCT/CN2 013/0812 21	WO20150 18084A1	TDD uplink/downlink re-configuration mechanism	PCT	2013800799 52.0	ZL201380079 952.0	CN
									2019103704 41.3		CN
									13891338.9		DE
									13891338.9	3031160A1	EP
									2016470036 06		IN
									2016-532189	6308506	JP



## ETSI Rules of Procedure, 3 April 2019

Page 31 (version 15)

									2018-038640	8481988	JP
									2019-017717	2019097191A	JP
									14/909975	9876628	US
									15/845706	10291385	US
									16/352564	20190215141 A1	US
3GPP Release 12	TS36.32 1	5.4.6	V12.10. 0	Sun Patent Trust	PCT/JP20 14/00454 4	WO20150 45283A1	Power control and power headroom reporting for dual connectivity	PCT	14849837.1	3050369	BE
								BR11201600 6376-7	11201600637 6A2	BR	
								14849837.1	3050369	CH	
								2014800525 71.8	105580449	CN	
								2019103440 11.4	110139354A	CN	
								14849837.1	3050369	CZ	
								13186442.3	2854480	DE	
								14849837.1	3050369	DE	
								14849837.1	3050369	DK	
								13186442.3	2854460	EP	
								14849837.1	3050369	EP	
								17193230.4	3280196A1	EP	
								14849837.1	3050369	ES	
								14849837.1	3050369	FI	
								13186442.3	2854480	FR	
								14849837.1	3050369	FR	
								13186442.3	2854480	GB	
								14849837.1	3050369	GB	
								14849837.1	3050369	GR	
								14849837.1	3050369	HU	
								P002016019 83		ID	
								14849837.1	3050369	IE	
								2016270091 91		IN	
								14849837.1	3050369	IT	
								2016-509201	6388218	JP	
								2018-145092	2018191330A	JP	
								10-2016- 7010910	20160062098 A	KR	



## ETSI Rules of Procedure, 3 April 2019

									MX/a/2016/03172	357323	MX
									NG/PT/C/2016/1799	NG/PT/C/2016/1799	NG
									14849837.1	3050369	NL
									14849837.1	3050369	NO
									14849837.1	3050369	PL
									14849837.1	3050369	PT
									14849837.1	3050369	RO
									2016110783	2645753	RU
									2018104247	2668285	RU
									14849837.1	3050369	SE
									11201602250V	11201602250V	SG
									10201801087P		SG
									14849837.1	3050369	TR
									15/024807	10244489	US
									16/267974	20190191394A1	US
									1-2016-00895		VN
3GPP Release 13	TS36.323	4.5	V13.6.0	Sun Patent Trust	PCT/JP2014/004323	WO2015045268A1	Efficient uplink scheduling mechanisms for dual connectivity	PCT	BR112016006377-5	112016006377A2	BR
									2.923,943		CA
									201480052941.8	105580473	CN
									201910343987.X	109982386A	CN
									14848444.7	3050379	DE
									14848444.7	3050379	EP
									18161898.4	3352494A1	EP
									14848444.7	3050379	ES
									14848444.7	3050379	FR
									14848444.7	3050379	GB
									201627009237		IN
									14848444.7	3050379	IT
									2016-509212	6391055	JP





## ETSI Rules of Procedure, 3 April 2019

									2018-151396	2018196149A	JP
									10-2016-7010956	20160062101A	KR
									PI2016700952		MY
									PI2019000571		MY
									14848444.7	3050379	PL
									2016110781	2644412	RU
									2017146614	2678691	RU
									2019101178	2693859	RU
									14848444.7	3050379	TR
									15/024751	9883419	US
									15/851631	10368266	US
									16/440029		US
									1-2016-00894		VN
									2016/01986	2016/01986	ZA
3GPP Release 12	TS36.33 1	5.3.1.1	V12.18. 0	Sun Patent Trust	PCT/EP2 015/0544 00	WO20151 39947A1	Security key derivation in dual connectivity	PCT	BR112016021416-1		BR
									201580014724.4	106105143	CN
									201910370425.4		CN
									14001067.9	2922326	DE
									14001067.9	2922326	EP
									18194573.4		EP
									14001067.9	2922326	FR
									14001067.9	2922326	GB
									P00201605398		ID
									201647031558		IN
									2016-557912	6481899	JP
									2019-016166		JP
									10-2016-7025745	20160138405A	KR
									MX/a/2016/012146	361089	MX
									NG/PT/C/2016/2016	NG/PT/C/2016/2016	NG





## ETSI Rules of Procedure, 3 April 2019

									2016137261	2669067	RU
									2018132443		RU
									1120160772 3U	11201607723 U	SG
									15/121357	10116685	US
									16/110416	20180367564 A1	US
									1-2016- 03506		VN
3GPP Release 12	TS36.32 1	5.4.3.1	V12.10. 0	Sun Patent Trust	PCT/EP2 015/0512 31	WO20151 39862A1	Scheduling request procedure for D2D communication	PCT	14001053.9	2922360	BE
									BR11201602 0289-9		BR
									2938617		CA
									14001053.9	2922360	CH
									NC2016/000 1781		CO
									14001053.9	2922360	CZ
									14001053.9	2922360	DE
									14001053.9	2922360	DK
									14001053.9	2922360	EP
									18211608.7	3471487A1	EP
									14001053.9	2922360	ES
									14001053.9	2922360	FI
									14001053.9	2922360	FR
									14001053.9	2922360	GB
									14001053.9	2922360	GR
									14001053.9	2922360	HU
									P002016050 98		ID
									14001053.9	2922360	IE
									2016470303 33		IN
									14001053.9	2922360	IT
									2016-556823	6534104	JP
									2019-093525		JP
									10-2016- 7025141		KR
									MX/a/2016/0 11772		MX



## ETSI Rules of Procedure, 3 April 2019

									PI201670274 3		MY
									14001053.9	2922360	NL
									14001053.9	2922360	NO
									14001053.9	2922360	PL
									14001053.9	2922360	PT
									14001053.9	2922360	RO
									2016136184	2676889	RU
									14001053.9	2922360	SE
									14001053.9	2922360	TR
									104107246	201541900A	TW
									15/121016	10314072	US
									16/385996	20190246418 A1	US
3GPP Release 12	TS36.42 5	5.4.2.1	V12.1.0	Sun Patent Trust	PCT/EP2 014/0658 06	WO20150 11184A1	Efficient discard mechanism in small cell deployment	PCT	2014295037	2014295037	AU
									2017248509		AU
									2019204205		AU
									1120160014 10-3		BR
									2014800506 19.1	105680422	CN
									2019105531 63.6		CN
									14741913.9	3025547	DE
									14741913.9	3025547	EP
									17173871.9	3240328A1	EP
									14741913.9	3025547	ES
									14741913.9	3025547	FR
									14741913.9	3025547	GB
									P002016003 67		ID
									2016470022 36		IN
									14741913.9	3025547	IT
									2016-628620	6436438	JP
									2018-208249	2019036998A	JP
									10-2016- 7001909	20160034911 A	KR
									MX/a/2016/0 01043	351988	MX



## ETSI Rules of Procedure, 3 April 2019

									MX/a/2017/014042		MX
									2016101811	2680863	RU
									2018121714	2689976	RU
									14741913.9	3025547	SE
									1601000307		TH
									14741913.9	3025547	TR
									14/906888	9954789	US
									15/922750	20180205661A1	US
									2016/00439	2016/00439	ZA
									2018/00817	201800817B	ZA
3GPP Release 12	TS36.331	5.10.8.2	V12.18.0	Sun Patent Trust	PCT/CN2014/077130	WO2015168931A1	Device to device synchronization source selection	PCT	2014393235	2014393235	AU
									BR112016023592-4	112016023592A2	BR
									201480078690.0	106484396A	CN
									14891563.0	3140931A1	EP
									P00201606155		ID
									201647037688		IN
									2016-568991	6436403	JP
									2018-206741	2019038995A	JP
									10-2016-7031233	20170003930A	KR
									MX/a/2016/014625	363176	MX
									2016143093	2648278	RU
									2018108246		RU
									1601005304		TH
									15/309401	10165533	US
									16/189808	20190082411A1	US
									2016/07532	201607532B	ZA
									2018/01152		ZA
3GPP Release 12	TS36.331	5.10.2	V12.18.0	Sun Patent Trust	PCT/EP2015/053927	WO2015169464A1	Resource allocation for D2D discovery transmission	PCT	2015258143	2015258143	AU
									2019200256		AU
									BR112016025311-8	112016025311A2	BR



## ETSI Rules of Procedure, 3 April 2019

									2015800240 63.3	106464715A	CN
									14167785.6	2942993A1	EP
									P002016068 33		ID
									2016470376 66		IN
									2016-567003	2017517966A	JP
									10-2016- 7031050	20170004987 A	KR
									MX/a/2016/0 14567		MX
									2016143530	2679347	RU
									1601006108		TH
									15/308331	10123201	US
									16/142884	20190028877 A1	US
									2016/07533		ZA
3GPP Release 12	TS36.21 3	14.1.1.1	V12.13. 0	Sun Patent Trust	PCT/CN2 014/0776 97	WO20151 72392A1	D2D communication method and D2D -enabled wireless device	PCT	2014800755 45.7	106416409A	CN
									14892051.5	3143821A1	EP
									2016470331 19		IN
									2016-562573	6391056	JP
									2018-151399	6534022	JP
									15/280889	20170019943 A1	US
3GPP Release 12	TS36.21 3	14.2.1	V12.13. 0	Sun Patent Trust	PCT/CN2 014/0836 00	WO20160 15350A1	Transmission timing control for D2D communication	PCT	BR11201602 9977-8		BR
									2014800807 98.4	106576314A	CN
									14898361.2	3175657	DE
									14898361.2	3175657	EP
									19155092.0	3499986A1	EP
									14898361.2	3175657	FR
									14898361.2	3175657	GB
									P- 0020160918 7		ID
									2017470019 21		IN





## ETSI Rules of Procedure, 3 April 2019

									2017-503595	2017535979A	JP
									10-2017-7001737	20170038791 A	KR
									MX/a/2017/00252		MX
									NG/PT/C/2017/2130		NG
									2017101864	2858663	RU
									2018119486		RU
									1120181052 4R		SG
									15/327978	10187863	US
									16/204702	20190098592 A1	US
									1-2017-00215		VN
3GPP Release 12	TS36.213	14.1.1.5	V12.13.0	Sun Patent Trust	PCT/CN2 014/0838 86	WO20160 19545A1	Power control method and user equipment in device to device communication in serving cell	PCT	2014800792 48.X	106416388A	CN
									14899440.3	3178264A1	EP
									2016470442 66		IN
									2018480279 48		IN
									2017-502229	2017522812A	JP
									15/380094	10004046	US
									15/983999	10271289	US
3GPP Release 12	TS36.331	5.10.4	V12.18.0	Sun Patent Trust	PCT/CN2 014/0875 87	WO20160 45094A1	Improved resource allocation for device to device (D2D) communication	PCT	16/284887	20190191388 A1	US
									2014406893		AU
									BR11201700 3593-6	11201700359 3A2	BR
									2014800820 70.4	107211470A	CN
									14902654.4	3198981A1	EP
									P002017011 39		ID
									2017470090 25		IN
									2017-515163	8519762	JP
									2019-074006	2019126092A	JP



## ETSI Rules of Procedure, 3 April 2019

									10-2017-7007607	20170069198 A	KR
									MX/a/2017/003613		MX
									2017108394	2672623	RU
									2018139326	2681368	RU
									2019106125		RU
									1701000780		TH
									15/512828	10149338	US
									16/161754	20190254006 A1	US
									2017/01900		ZA
3GPP Release 12	TS36.33 1	5.10.4	V12.18.0	Sun Patent Trust	PCT/CN2 014/0875 63	WO20160 45091A1	Device-to-device wireless communication method and user equipment	PCT	2014800788 90.6	106465199A	CN
									14902505.8	3198933A1	EP
									2016470438 38		IN
									2017-512722	6474010	JP
									2019-006128	2019097180A	JP
									15/377931	10257880	US
									16/281987	20190182886 A1	US
3GPP Release 13	TS23.40 2	5.3.4B.3	V13.9.0	Sun Patent Trust	PCT/EP2 012/0015 24	WO20121 36374A2	Improved short message transmission and handover procedures	PCT	2014-503031	5956557	JP
									2016-119552	6406529	JP
									2018-165463	2018207530A	JP
									13/978301	9247471	US
									14/995978	9894579	US
									15/855010	20180139671 A1	US
3GPP Release 13	TS36.32 1	5.1.1	V13.9.0	Sun Patent Trust	PCT/JP20 12/00461 7	WO20130 21551A1	Transmission device, preamble transmission device and transmission method	PCT	2012800360 87.7	103703812	CN
									2017105399 66.6	107197516A	CN
									18100731.4		HK
									2013-527852	5996540	JP
									2016-162744	6249310	JP
									2017-215680	2018067924A	JP
									14/237252	9282577	US
									15/004524	9801210	US



## ETSI Rules of Procedure, 3 April 2019

									15/705081	20180014335 A1	US
3GPP Release 13	TS36.211	6.10.5	V13.11.0	Sun Patent Trust	PCT/CN2012/070604	WO201307025A1	Method of scrambling reference signals, device and user equipment using the method	PCT	201280087308.7	104054286	CN
									201710337729.1	107181581A	CN
									2014-552462	6002243	JP
									14/368767	9712299	US
									15/600419	10038534	US
									16/022361	20180309558 A1	US
3GPP Release 13	TS36.213	10.1.2.2	V13.14.0	Sun Patent Trust	PCT/JP2013/001006	WO2013132774A1	Wireless communication terminal device and control channel forming method	PCT	2014-503454	6069642	JP
									2016-235013	6269792	JP
									14/378294	9877306	US
									15/841012	10075942	US
									16/101225	20180352543 A1	US
3GPP Release 13	TS36.213	10.1.2.1	V13.14.0	Sun Patent Trust	PCT/CN2013/071085	WO2014117326A1	Base station, terminal, transmission method, and reception method	PCT	201380071596.8	104956749A	CN
									201910666638.1		CN
									2015-551098	6115840	JP
									2017-043603	8365954	JP
									2018-116977	6550806	JP
									2019-104627		JP
									14/443980	9565689	US
									15/385002	9814034	US
									15/710676	20180014286 A1	US
3GPP Release 13	TS36.211	6.10.5	V13.11.0	Sun Patent Trust	PCT/CN2013/073602	WO2014161145A1	Method of mapping CSI-RS ports to antenna units, base station and user equipment	PCT	201380074766.8		CN
									13881039.5		EP
									2016-505870		JP
									2018-002562	6536976	JP
									2019-095982		JP
									14/777710		US
3GPP Release 13	TS36.331	6.2.2	V13.14.0	Sun Patent Trust	PCT/CN2013/080995	WO2015018005A1	Base station apparatus, terminal apparatus,	PCT	201380078612.6	105432132A	CN
									13890902.3	3031264	DE
									18192090.1		DE





## ETSI Rules of Procedure, 3 April 2019

							transmitting method, and receiving method		13890902.3	3031264	EP
									18192090.1	3429295A1	EP
									13890902.3	3031264	FR
									13890902.3	3031264	GB
									2016-532179	6292530	JP
									2018-016343	6447898	JP
									14/903044	10038529	US
									16/022523	2018-0309559 A1	US
3GPP Release 13	TS36.21 3	9.1.5	V13.14. 0	Sun Patent Trust	PCT/CN2 014/0715 97	WO20151 09607A1	Wireless communication method, eNodeB, and user equipment	PCT	2014800729 50.3	106165508A	CN
									14879322.7	3100552A1	EP
									2016270227 27		IN
									2016-535048	6372769	JP
									2018-127556	6512528	JP
									15/104202	20160330723 A1	US
3GPP Release 13	TS36.21 3	10.1.2.1	V13.14. 0	Sun Patent Trust	PCT/CN2 014/0806 28	WO20151 96368A1	Terminal, base station, transmission method, and reception method	PCT	BR11201602 8073-3		BR
									2,950,636		CA
									2014800796 71.X	106465355A	CN
									NC2016/000 5108		CO
									14896013.1	3162139A1	EP
									P002016084 35		ID
									2016270408 12		IN
									2016-542242	6410112	JP
									2018-169668	2018191357A	JP
									10-2016- 7034393	20170020340 A	KR
									MX/a/2016/0 15879	359734	MX
									PI201670440 2		MY
									2016148175	2670775	RU





## ETSI Rules of Procedure, 3 April 2019

									15/318489	20170164335 A1	US
3GPP Release 13	TS36.213	7.1.7.2	V13.14.0	Sun Patent Trust	PCT/EP2 016/0891 52	WO20170 29192A1	Modulation order adaptation for partial subframes	PCT	BR11201800 2694-8		BR
									2,995,519		CA
									2016800563 17.4	108141335A	CN
									NC2018/000 1382		CO
									15181139.5	3131225	DE
									15181139.5	3131225	EP
									18212864.5	3487112A1	EP
									15181139.5	3131225	FR
									15181139.5	3131225	GB
									P002018007 84		ID
									2018470051 27		IN
									2018-505675	2018526895A	JP
									10-2018- 7004339	20180039642 A	KR
									MX/a/2018/0 01839		MX
									PI 2018700328		MY
3GPP Release 13	TS36.321	5.14.1.1	V13.9.0	Sun Patent Trust	PCT/CN2 015/0939 60	WO20170 75798A1	Multiple sidelink control transmissions during a sidelink control period	PCT	2018105179		RU
									15/752882	20180241499 A1	US
									2015414030		AU
									BR11201800 7742-9	11201800774 2A2	BR
									3000752		CA
									2015800839 85.1	108432309A	CN
									NC2018/000 3953		CO
									15907640.5	3372028A	EP
									PID2018027 76		ID
									2018470149 70		IN



## ETSI Rules of Procedure, 3 April 2019

									2018-517136	2018533868A	JP
									10-2018-7011216		KR
									MX/a/2018/004855		MX
									PI2018701210		MY
									NG/PT/C/2018/2894		NG
									2018114453	2683977	RU
									2019108084		RU
									11201802476P		SG
									1801002263		TH
									15/769329	20180263026A1	US
									1-2018-01686		VN
									2018/02568		ZA
3GPP Release 14	TS36.211	6.3.4.4	V14.11.0	Sun Patent Trust	PCT/JP2011/003384	WO2011158496A1	Pre-coding method and transmitter	PCT	201180029416.0	102988155	CN
									201510463269.8	105162501	CN
									201510462870.5	104967501	CN
									11795404.0	2445131	DE
									15197216.3	3032769	DE
									11795404.0	2445131	EP
									15197216.3	3032769	EP
									17184937.5	3264648A1	EP
									11795404.0	2445131	ES
									15197216.3	3032769	ES
									11795404.0	2445131	FR
									15197216.3	3032769	FR
									11795404.0	2445131	GB
									15197216.3	3032769	GB
									10894/DEL/2012		IN
									11795404.0	2445131	IT



## ETSI Rules of Procedure, 3 April 2019

									15197216.3	3032769	IT
									10-2012-7032563	10-1375064	KR
									2012/014548	322272	MX
									2014/008921	325753	MX
									2014/014511	330275	MX
									2015/008439	334295	MX
									2015/014850	358016	MX
									MX/a/2018/005650		MX
									100121079	1511484	TW
									15/143664	9729217	US
									13/704134	8842772	US
									14/454314	9362996	US
									15/429337	9843368	US
									15/804209	10291304	US
									16/353208	20190207659 A1	US
3GPP Release 14	TS36.213	7.2.4	V14.11.0	Sun Patent Trust	PCT/JP2011/006741	WO2012077310A1	Precoding method, and transmitting device	PCT	P110104551	084167	AR
									2011339973	2011339973	AU
									2016210741	2016210741	AU
									2018203781		AU
									112013003784-9	112013003784A2	BR
									2802662		CA
									3024974		CA
									2013-00509	53.383	CL
									201610183088.4	105763235	CN
									201610182008.3	105634575	CN
									201180034677.1	103004118	CN
									11847490.7	2651064	DE
									16172451.3	3086494	DE
									201690305	031032	EA
									201390046	024352	EA
									201891449		EA
									PCT178/2013		EG



## ETSI Rules of Procedure, 3 April 2019

								11847490.7	2651064	EP
								16172451.3	3086494	EP
								18186997.8	3418318A1	EP
								11847490.7	2651064	FR
								16172451.3	3086494	FR
								11847490.7	2651064	GB
								16172451.3	3086494	GB
								2011/19938	0005981	GC
								13114196.8	HK1186863	HK
								W002013003 90		ID
								223917	223917	IL
								00999/DEL/2 013		IN
								2012-547694	5827238	JP
								2015-202765	6004385	JP
								2016-166912	6226251	JP
								2017-189068	6562280	JP
								2019-128200		JP
								10-2013- 7000343	10-1874394	KR
								10-2018- 7018275	101967252	KR
								10-2019- 7009432		KR
								2013/000987	317231	MX
								2014/000510	326243	MX
								2014/015108		MX
								2018/005533		MX
								PI201300018 8	164784	MY
								NG/C/2013/0 58	NG/C/2013/05 8	NG
								000178-2013	8616	PE
								1-2013- 500211		PH
								1-2018- 501182		PH
								201390048	024352	RU
								201690305	031032	RU
								201300222-5	187031	SG





## ETSI Rules of Procedure, 3 April 2019

									1020150995 4X		SG
									1301000547		TH
									100145569	1551076	TW
									13/810783	9287946	US
									15/008055	9985702	US
									15/947206	20180234142 A1	US
									1-2013- 00346	19060	VN
									1-2017- 03054		VN
									2013/00696	2013/00696	ZA
3GPP Release 14	TS36.21 3	7.2.3	V14.11. 0	Sun Patent Trust	PCT/JP20 12/00107 0	WO20121 14698A1	Precoding method, precoding device	PCT	2012800096 14.5	103404081	CN
									2016106215 31.1	106059641A	CN
									12749086.0	2680473	DE
									12749086.0	2680473	EP
									17201238.7		EP
									12749086.0	2680473	ES
									12749086.0	2680473	FR
									12749086.0	2680473	GB
									12749086.0	2680473	IT
									2016-067307	6284054	JP
									2013-500877	5540146	JP
									2014-092193	5739665	JP
									2015-087594	5911988	JP
									2018-006095	6544668	JP
									101105454	1535231	TW
									105110908	1617149	TW
									106140998	1653850	TW
									108102420	201921854A	TW
									13/985707	8971439	US
									14/582652	9225407	US
									14/939292	9571174	US
									15/389494	9793988	US
									15/892030	10027390	US
									16/004674	20180294854 A1	US



## ETSI Rules of Procedure, 3 April 2019

3GPP Release 14	TS36.21 1	6.3.4.4	V14.11. 0	Sun Patent Trust	13/40689 5	8638879	Transmission method and transmission apparatus	US	16/432085		US
									2012-040364	5991572	JP
									2016-153800	6187836	JP
									2017-140160	6365910	JP
									2018-116944	6519900	JP
									2019-075718		JP
									14/103034	8755478	US
									14/267166	9893776	US
									15/856250	10224989	US
									16/263282	20190165840 A1	US
3GPP Release 14	TS36.21 3	6.3.4	V14.11. 0	Sun Patent Trust	PCT/JP20 12/00267 6	WO20121 44202A1	Relay method and relay device	PCT	2012800178 90.6	103503351	CN
									2016103984 11.X	106100715A	CN
									12774709.5	2701328	DE
									16151067.2	3035575	DE
									17174756.1	3232590	DE
									12774709.5	2701328	EP
									16151067.2	3035575	EP
									17174756.1	3232590	EP
									18200955.5	3451559A1	EP
									12774709.5	2701328	FR
									16151067.2	3035575	FR
									17174756.1	3232590	FR
									12774709.5	2701328	GB
									16151067.2	3035575	GB
									17174756.1	3232590	GB
									12774709.5	2701328	IT
									16151067.2	3035575	IT
									17174756.1	3232590	IT
									2013-510885	5606618	JP
									2016-028346	6308443	JP
									2018-036396	2018125860A	JP
									2019-114350		JP
									101113939	1511485	TW
									14/110783	8989237	US
									14/582610	9426631	US
									15/202924	9806793	US
									15/617550	10044432	US



## ETSI Rules of Procedure, 3 April 2019

									16/017244	20180309503 A1	US
3GPP Release 14	TS36.213	7.2.3	V14.11.0	Sun Patent Trust	PCT/JP2012/002702	WO2012144210A1	Pre-coding method and pre-coding device	PCT	201280017895.9	103477583	CN
									201610825840.0	107104716A	CN
									201610825306.X	106850019A	CN
									12774704.8	2701327A1	EP
									2013-510891	5546681	JP
									2014-098577	5813823	JP
									2015-181671	5995119	JP
									2016-158221	6213854	JP
									2017-172081	6422085	JP
									2018-189813	2019033517A	JP
									101113936	1572158	TW
									14/111334	9008225	US
									14/579244	9300380	US
									15/016718	9516712	US
									15/298799	9698880	US
3GPP Release 14	TS36.213	7.2.3	V14.11.0	Sun Patent Trust	13/295431	8948305	Transmission method, transmission apparatus, reception method and reception apparatus	US	14/576364	9136927	US
									14/820922	9401776	US
									15/176319	9893781	US
									15/856253	20180138956 A1	US
3GPP Release 14	TS36.213	7.2.3	V14.11.0	Sun Patent Trust	14/295898	9225406	Precoding method, transmitting device, and receiving device	US	14/932070	9553644	US
									15/375704	9780851	US
									15/672417	10009077	US
									15/988392	10270502	US
									16/288666	20190199416 A1	US

\* Information on other members of a PATENT FAMILY is provided voluntarily (Clause 4.3 of the ETSI IPR Policy).

Please return this form together with the "IPR Information Statement and Licensing Declaration form" to:  
ETSI Director-General - ETSI - 650, route des Lucioles - F-06921 Sophia Antipolis Cedex - France / Fax. +33 (0) 4 93 65 47 16